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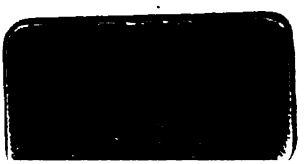

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49TH CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { Ex. Doc. 31, Part 1.

REPORT

OF THE

TESTS OF METALS

AND

OTHER MATERIALS

FOR

INDUSTRIAL PURPOSES

MADE WITH THE

UNITED STATES TESTING MACHINE AT WATERTOWN ARSENAL, MASSACHUSETTS,

DURING

THE YEAR ENDED JUNE 30, 1886.

IN TWO PARTS.

PART I.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1889.

A. 1042

49TH CONGRESS, } HOUSE OF REPRESENTATIVES. { EX. DOC.
2d Session. } { No. 31.

TESTS OF IRON, STEEL, AND OTHER MATERIALS.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING

With a letter from the Chief of Ordnance, U. S. Army, a report of tests of iron and steel and other materials for industrial purposes.

DECEMBER 14, 1886.—Referred to the Committee on Manufactures and ordered to be printed.

WAR DEPARTMENT,
Washington City, December 13, 1886.

The Secretary of War has the honor to transmit to Congress a letter of the Chief of Ordnance, U. S. Army, dated the 29th ultimo, and its accompanying report of "Tests of iron and steel and other materials for industrial purposes," made at the Watertown Arsenal with the United States testing-machine during the fiscal year ending June 30, 1886.

The Chief of Ordnance concurs in the recommendation of the commandant of the arsenal that a small machine should be procured to test minor specimens in order to relieve the large machine from such work and confine its use to the testing of full-size members of structures, for which it was specially designed. He expresses the opinion that the distribution of copies of these reports should be made as extended as possible in order to meet the frequent and persistent applications therefor.

The views of the Chief of Ordnance are concurred in by this Department.

WILLIAM C. ENDICOTT,
Secretary of War.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

ORDNANCE OFFICE, WAR DEPARTMENT,
Washington, D. C., November 29, 1886.

SIR: I have the honor to submit herewith for transmission to Congress as provided by law, Maj. F. H. Parker's annual report of "Tests of iron and steel and other materials for industrial purposes," made at the Watertown Arsenal, Watertown, Mass., with the United States testing-machine, during the fiscal year ending 30th June, 1886.

I concur in the recommendation for a small machine to test minor specimens.

The object is to relieve the large machine from such work and confine its use to the testing of full-size members of structures, for which it was specially designed. The results would be of the greatest advantage to engineers throughout the country.

The frequent and persistent calls for copies of these reports conclusively prove their practical value, and their distribution should be made as extended as possible.

Very respectfully, your obedient servant,

S. V. BENÉT,
Brigadier-General, Chief of Ordnance.

The SECRETARY OF WAR.

WATERTOWN ARSENAL,
Watertown, Mass., August 31, 1886.

SIR: I have the honor to submit herewith the annual report of tests of iron, steel and other materials made at this arsenal with the United States testing-machine during the fiscal year ending June 30, 1886.

The testing work has been continuous and uninterrupted, the testing-machine having been used to its full capacity by Mr. J. E. Howard, the expert engineer of tests.

There were tested during the year a total of 2,132 specimens, of which number 1,895 were public and 237 private tests. Of the private tests 149 were from Massachusetts, 1 from New Hampshire, 7 from Rhode Island, 10 from New York, 35 from Pennsylvania, 2 from Kentucky, 2 from Missouri, 14 from Ohio, 6 from Minnesota, 11 from Montreal, P. Q. A list of the parties for whom tests were made is appended.

A large portion of the public tests were made for the Ordnance Department in its test of materials for gun construction and in experiments connected therewith.

Of the miscellaneous tests some of the most interesting are the continuation and completion of the tests of steel-plate riveted joints, and of a series of brick piers, both continued from the report of the preceding year. Also the commencement of a series of temperature tests, the object of which is to investigate the effect of different degrees of heat upon the strength and elastic limit of iron and steel bars. Also tests of railway-car axles which have been run different lengths of time. Also of the cubic compression of various metals and wood and a series of tests for the U. S. Geological Survey on the compression of metals and chemical salts in a hollow cylinder.

I renew my recommendations previously made for the procurement of an additional smaller testing-machine to work on the numerous small specimens used in testing gun material and in other cases where such pieces are necessarily used, reserving the larger machine for tests of large specimens and full-size members of structures which it alone can

accommodate and test and for which it was specially designed. Being relieved of so much routine work it will give more opportunity to carry on series of industrial tests and experiments, which will be of interest and advantage to the engineering world.

The desirability of a more liberal distribution of the results of the testing work done by the Government as exhibited in the annual report is urged. Applications are frequently made for copies of these reports, and when it is understood that the reports for 1884 and 1885 are not yet out, and that those previously printed are but limited in number, it would seem as if the full benefits of the work and of the annual appropriations were far from being realized. It is believed that the information the reports contain is valuable and should be widely disseminated among engineers and builders.

The receipts and expenditures for the year were as follows:

Testing-machine, 1886.

Amount appropriated for testing-machine and testing work	$10,000.00
Amount received during the fiscal year for private tests	466.82
	10,466.82
Expended for services and labor	8,043.96
Expended for steam-power, tools, implements, repairs, and improvements	2,379.66
Deposited to credit of Treasurer of the United States	43.20
	10,466.82

I also send herewith the reports of chemical analyses made during the year by Capt. John Pitman, Ordnance Department, U. S. Army.

Very respectfully, your obedient servant,

F. H. PARKER,
Major, Ordnance Department, U. S. Army, Commanding.

The CHIEF OF ORDNANCE, U. S. ARMY,
Washington, D. C.

WATERTOWN ARSENAL,
Watertown, Mass., December 17, 1885.

SIR: I have the honor herewith to inclose my report of analyses of water from wells near machine-shop and officers' quarters at Sandy Hook, N. J. The samples were received September 2. The analysis was made on the request of Captain Whipple.

I remain, very respectfully, your obedient servant,

J. PITMAN,
Captain of Ordnance.

Maj. F. H. PARKER,
Commanding.

Analyses of well-waters received from Sandy Hook September 2, 1885.

	From machine-shop.	From officer's quarters.	Remarks.
Ammonia (free)	.045	.015	Parts per 1,000,000.
Albuminoid ammonia	.080	.055	Do.
Sulphuric acid	.0352	.0170	Grams per liter.
Chlorine	.0225	.0142	Do.
Soluble residue	.1332	.1255	Do.
Insoluble residue	.1095	.1061	Do.
Silica	.0014	.0013	Soluble residue, grams per liter.
Iron and alumina	.0005	.0012	Do.
Lime	.0109	.0127	Do.
Magnesia	.0053	.0117	Do.
Soda	.0419	.0296	Do.
Potash	.0042	.0003	Do.
Silica	.0074	.0087	Insoluble residue, grams per liter.
Iron and alumina	.0015	.0024	Do.
Lime	.0408	.0412	Do.
Magnesia	.0083	.0064	Do.

WATERTOWN ARSENAL,
Watertown, Mass., June 9, 1886.

SIR: In accordance with your order of March 8 I have the honor to report as follows as regards two samples of sheet metal received from Colonel Crispin March 8:

	Regular cartridge metal.	Aluminium bronze.
Elastic limit.....pounds..	12,591	26,608
Tensile strength .....do....	38,341	49,415
Elongation in 5 inches.....per cent..	44	44.8
Thickness .....inch..	.0925	.0917
Specific gravity	8.8477	8.4439

RESULTS OF ANALYSIS.

	Per cent.	*Per cent.*
Copper	91.82	96.44
Zinc	7.92	0.04
Iron	0.09	0.19
Aluminium	.....	3.02
Silver	0.04	.....
Arsenic	0.05	.....
Antimony	0.04	.....
Silicon	.....	0.53

Very respectfully, your obedient servant,

JOHN PITMAN,
Captain of Ordnance.

Maj. F. H. PARKER,
Commanding.

WATERTOWN ARSENAL,
Watertown, Mass., June 22, 1886.

SIR: I have the honor to report the following as the result obtained from the analysis from test specimens marked $\frac{32\ T_4}{B\ T_1}$ and $\frac{32\ T_4}{B\ T_2}$, having been taken from the breech-end of tube for the 3″.2 steel breech loading rifle No. 1, now in the process of manufacture at this arsenal:

	Per cent.		Per cent.
Silicon	0.127	Manganese	0.671
Phosphorus	0.033	Copper	0.02
Sulphur	0.024	Cobalt	0.021
Total carbon	0.377	Nickel	0.034

I remain, very respectfully, your obedient servant,

JOHN PITMAN,
Captain of Ordnance.

Maj. F. H. PARKER,
Commanding.

WATERTOWN ARSENAL,
Watertown, Mass., January 1, 1886.

SIR: I have the honor to report the following results obtained from gas-coal received by gas-works December 16, 1885:

	Per cent.
Moisture	0.92
Volatile matter	31.04
Combustible matter	61.58
Ash (light lead color)	6.46
	100.00
Sulphur	2.05

I remain, very respectfully, your obedient servant,

JOHN PITMAN,
Captain of Ordnance.

Maj. F. H. PARKER,
Commanding.

REPORT OF TESTS

ON THE

STRENGTH OF STRUCTURAL MATERIAL

MADE AT THE

WATERTOWN ARSENAL, MASS.,

DURING THE

FISCAL YEAR ENDED JUNE 30, 1886.

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3″.2 STEEL B. L. RIFLES.

STEEL SPECIMENS

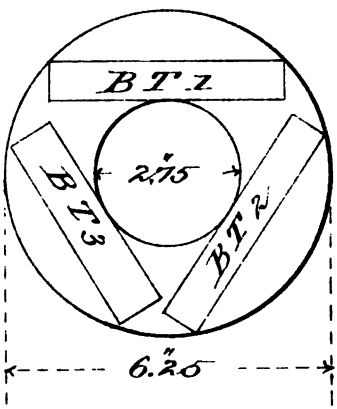
FROM

TUBES, JACKETS, TRUNNION-HOOPS, BREECH-BLOCKS, BASE-RINGS, SLEEVES, AND OBTURATOR STEMS.

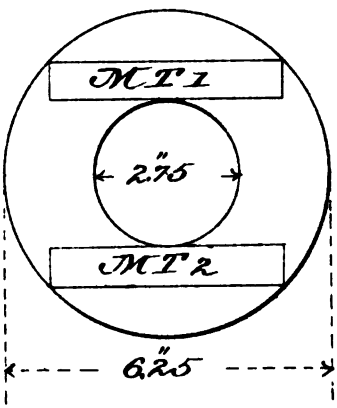
Tube 3.2" Rifle

General drawing showing positions from whence specimens were taken

Breech end



Muzzle end



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TUBES.—3.2 INCH B. L. RIFLES.

No. 1689.

Marks, $^{33\ T_1}_{B\ T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	0.	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001400	.000100	.....	.....	
9,600	48,000	.001500	.000100	.....	.....	
9,800	49,000	.001550	.000050	.....	.....	
10,000	50,000	.001600	.000050	.000 00	.000100	Elastic limit.
		.002700	.001100	.....	.....	
10,200	51,000	.005200	.002500	.....	.....	
10,400	52,000	.006200	.001000	.....	.....	
10,600	53,000	.007200	.001000	.....	.....	
10,800	54,000	.008300	.001100	.....	.....	
11,000	55,000	.009450	.001150	.007350	.007250	
11,200	56,000	.010000	.000550	.....	.....	
11,400	57,000	.011000	.001000	.....	.....	
11,600	58,000	.012250	.001250	.....	.....	
11,800	59,000	.013600	.001350	.....	.....	
12,000	60,000	.014650	.001050	.....	.....	
12,400	62,000	.017200	.002550	.....	.....	
12,800	64,000	.019800	.002600	.....	.....	
13,200	66,000	.022550	.002750	.....	.....	
13,600	68,000	.025600	.003050	.....	.....	
14,000	70,000	.028750	.003150	.....	.....	
14,400	72,000	.032550	.003800	.....	.....	
14,800	74,000	.036500	.003950	.....	.....	
15,200	76,000	.041500	.005000	.....	.....	
15,600	78,000	.047300	.005800	.....	.....	
16,000	80,000	.055500	.008200	.....	.....	
16,400	82,000	.067000	.011500	.....	.....	
16,800	84,000	.0850	.0180	.....	.....	
17,070	85,350	.1300	.0450	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8615
Tensile strength per square inch of original section	pounds	85,350
Elastic limit per square inch of original section	do	50,000
Elongation per inch after rupture	inch	0.2400
Elongation per inch under strain at elastic limit	do	.001600
Reduction in diameter at point of rupture	do	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		".1 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".32", ".16

No. 1090.

Marks, $\frac{32\ T_1}{B\ T_2}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000400	.000200	0.	.....	
3,000	15,000	.000600	.000200	0.	.....	
4,000	20,000	.000750	.000150	0.	.....	
5,000	25,000	.000950	.000200	0.	.....	
6,000	30,000	.001100	.000150	0.	.....	
7,000	35,000	.001250	.000150	.000050	.000050	
8,000	40,000	.001350	.000100	.000050	0.	
9,000	45,000	.001550	.000200	.000050	0.	
9,600	48,000	.001750	.000200	.....	.....	
9,800	49,000	.001800	.000050	.....	.....	Elastic limit.
10,000	50,000	.002700	.001100	.001000	.000950	
10,200	51,000	.003800	.001100	.....	.....	
10,400	52,000	.005100	.001300	.....	.....	
10,600	53,000	.007100	.002000	.....	.....	
10,800	54,000	.008500	.001400	.....	.....	
11,000	55,000	.009300	.000800	.007250	.006250	
11,200	56,000	.010100	.000800	.....	.....	
11,400	57,000	.011100	.001000	.....	.....	
11,600	58,000	.012250	.001150	.....	.....	
11,800	59,000	.013500	.001250	.....	.....	
12,000	60,000	.014750	.001250	.....	.....	
12,400	62,000	.017100	.002350	.....	.....	
12,800	64,000	.019600	.002500	.....	.....	
13,200	66,000	.022500	.002900	.....	.....	
13,600	68,000	.025750	.003250	.....	.....	
14,000	70,000	.028750	.003000	.....	.....	
14,400	72,000	.032500	.003750	.....	.....	
14,800	74,000	.036550	.004050	.....	.....	
15,200	76,000	.041500	.004950	.....	.....	
15,600	78,000	.048000	.006500	.....	.....	
16,000	80,000	.055250	.007250	.....	.....	
16,400	82,000	.068250	.013000	.....	.....	
16,800	84,000	.087500	.021250	.....	.....	
16,980	84,900	.1150	.0275	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,900
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.114
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		⅝ inch from neck
Character of broken surface		silky
Elongation of inch sections		".80", ".10

No. 576.

Marks, $\frac{32\ T_1}{B\ T_2}$
Length, 4".001.
Diameter, ".798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000200	.000100	0.	.....	
7,500	15,000	.000300	.000100	0.	.....	Load accidentally increased, causing permanent set of.
.....	.....	.....	.....	.021650	.021650	
47,200	94,400	.....	.....	.....	.....	Ultimate strength.

No. 1691.

Marks, $\frac{32\ T_1}{M\ T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
9,600	48,000	.001450	.000100	.....	.....	Elastic limit.
9,800	49,000	.001950	.000500	.....	.....	
10,000	50,000	.002750	.000800	.001150	.001150	Rested under initial load one hour.
10,200	51,000	.003300	.000550	.....	.....	
10,400	52,000	.003850	.000550	.....	.....	
10,600	53,000	.004900	.001050	.....	.....	
10,800	54,000	.006450	.001550	.....	.....	
11,000	55,000	.008000	.001550	.006100	.004950	
11,200	56,000	.008750	.000750	.....	.....	
11,400	57,000	.009450	.000700	.....	.....	
11,600	58,000	.010500	.001050	.....	.....	
11,800	59,000	.012100	.001600	.....	.....	
12,000	60,000	.013400	.001300	.....	.....	
12,400	62,000	.015750	.002350	.....	.....	
12,800	64,000	.018300	.002550	.....	.....	
13,200	66,000	.021000	.002700	.....	.....	
13,600	68,000	.023600	.002600	.....	.....	
14,000	70,000	.026500	.002900	.....	.....	
14,400	72,000	.030600	.004100	.....	.....	
14,800	74,000	.034550	.003950	.....	.....	
15,200	76,000	.038650	.004100	.....	.....	
15,600	78,000	.044500	.005850	.....	.....	
16,000	80,000	.051000	.006500	.....	.....	
16,400	82,000	.061000	.010000	.....	.....	
16,800	84,000	.074500	.013500	.....	.....	
17,040	85,200	.1035	.0290	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	85,200
Elastic limit per square inch of original section	do ...	48,000
Elongation per inch after rupture	inch..	0.1500
Elongation per inch under strain at elastic limit	do....	.001450
Reduction in diameter at point of rupture	do....	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		$\frac{1}{4}$ inch from neck
Character of broken surface		granular, dull spot at circumference
Elongation of inch sections		".24", ".06

No. 1692.

Marks, $\frac{32\ T_1}{M\ T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
8,200	41,000	.001150	0.	.....	.....	
8,400	42,000	.001200	.000050	.....	.....	
8,600	43,000	.001300	.000100	.....	.....	Elastic limit.
8,800	44,000	.002500	.001200	.....	.....	
9,000	45,000	.009500	.007000	.007750	.007750	
9,200	46,000	.010150	.000650	.....	.....	
9,400	47,000	.010400	.000250	.....	.....	
9,600	48,000	.011300	.000900	.....	.....	
9,800	49,000	.012550	.001250	.....	.....	
10,000	50,000	.013750	.001200	.011750	.004000	
10,200	51,000	.015050	.001300	.....	.....	
10,400	52,000	.016000	.000950	.....	.....	
10,600	53,000	.017200	.001200	.....	.....	
10,800	54,000	.018500	.001300	.....	.....	
11,000	55,000	.019600	.001100	.....	.....	
11,200	56,000	.021000	.001400	.....	.....	
11,400	57,000	.022550	.001550	.....	.....	
11,600	58,000	.024050	.001500	.....	.....	
11,800	59,000	.025600	.001550	.....	.....	
12,000	60,000	.027150	.001550	.....	.....	
12,400	62,000	.030350	.003200	.....	.....	
12,800	64,000	.034500	.004150	.....	.....	
13,200	66,000	.038500	.003900	.....	.....	
13,600	68,000	.043500	.005100	.....	.....	
14,000	70,000	.050000	.006500	.....	.....	
14,400	72,000	.058500	.008500	.....	.....	
14,800	74,000	.068000	.009500	.....	.....	
15,200	76,000	.080	.0120	.....	.....	
15,600	78,000	.1050	.0250	.....	.....	
16,000	80,000	.1500	.0450	.....	.....	
16,020	80,100	.1750	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	80,100
Elastic limit per square inch of original section	do	43,000
Elongation per inch after rupture	inch	0.2000
Elongation per inch under strain at elastic limit	do	.001300
Reduction in diameter at point of rupture	do	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.38*, ″.20

No. 2274.

Marks, $\frac{32\ T_1}{M\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
8,200	41,000	.001300	.000050	.....	.....	
8,400	42,000	.001350	.000050	.....	.....	
8,600	43,000	.001400	.000050	.....	.....	Elastic limit.
8,800	44,000	.001900	.000500	.....	.....	
9,000	45,000	.003000	.001100	.....	.....	
9,200	46,000	.005150	.002150	.....	.....	
9,400	47,000	.008100	.002950	.....	.....	
9,600	48,000	.009100	.001000	.....	.....	
9,800	49,000	.009800	.000700	.....	.....	
10,000	50,000	.011000	.001200	.....	.....	
10,400	52,000	.013100	.002100	.....	.....	
10,800	54,000	.015500	.002400	.....	.....	
11,200	56,000	.017550	.002050	.....	.....	
11,600	58,000	.020250	.002700	.....	.....	
12,000	60,000	.022850	.002600	.....	.....	
12,400	62,000	.026000	.003150	.....	.....	
12,800	64,000	.029000	.003000	.....	.....	
13,200	66,000	.032150	.003150	.....	.....	
13,600	68,000	.037550	.005400	.....	.....	
14,000	70,000	.043000	.005450	.....	.....	
14,400	72,000	.048500	.005500	.....	.....	
14,800	74,000	.055250	.006750	.....	.....	
15,200	76,000	.0600	.004750	.....	.....	
15,600	78,000	.0800	.0200	.....	.....	
16,000	80,000	.1050	.0250	.....	.....	
16,210	81,050	.1600	.0550	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,050
Elastic limit per square inch of original section	do....	43,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do....	.001400
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		".6 from neck
Character of broken surface		granular, dull spot at circumference
Elongation of inch sections		".31*, ".19

No. 2275.

Marks, $\frac{32\ T_1}{M\ T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000400	.000200	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
8,200	41,000	.001200	.000150	.....	.....	
8,400	42,000	.001250	.000050	.....	.....	
8,600	43,000	.001250	0.	.....	.....	
8,800	44,000	.001300	.000050	.....	.....	
9,000	45,000	.001350	.000050	.....	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001550	.000100	.....	.....	Elastic limit.
9,800	49,000	.001900	.000350	.....	.....	
10,000	50,000	.003700	.001800	.....	.....	
10,400	52,000	.005650	.001950	.....	.....	
10,800	54,000	.009000	.003350	.....	.....	
11,200	56,000	.011350	.002350	.....	.....	
11,600	58,000	.013500	.002150	.....	.....	
12,000	60,000	.016050	.002550	.....	.....	
12,400	62,000	.018500	.002450	.....	.....	
12,800	64,000	.021200	.002700	.....	.....	
13,200	66,000	.024350	.003150	.....	.....	
13,600	68,000	.027150	.002800	.....	.....	
14,000	70,000	.031250	.004100	.....	.....	
14,400	72,000	.035250	.004000	.....	.....	
14,800	74,000	.039750	.004500	.....	.....	
15,200	76,000	.045250	.005500	.....	.....	
15,600	78,000	.052250	.007000	.....	.....	
16,000	80,000	.0600	.007750	.....	.....	
16,400	82,000	.0800	.0200	.....	.....	
16,800	84,000	.1100	.0300	.....	.....	
16,880	84,400	.1400	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,400
Elastic limit per square inch of original section	do....	48,000
Elongation per inch after rupture	inch..	.1500
Elongation per inch under strain at elastic limit	do....	.001550
Reduction in diameter at point of rupture	do....	.065
Reduction in area after rupture, per centum of original section		23.9
Position of rupture		".65 from neck
Character of broken surface		granular, dull flaky spot near the circumference
Elongation of inch sections		".15", ".12

NEW TUBE No. 1.

No. 2590.

Marks, $\frac{32\ T_1}{B\ T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000350	.000250	0.		
3,000	15,000	.000500	.000150	0.		
4,000	20,000	.000650	.000150	0.		
5,000	25,000	.000800	.000150	0.		
6,000	30,000	.000950	.000150	0.		
7,000	35,000	.001100	.000150	0.		
8,000	40,000	.001350	.000250			
9,000	45,000	.001500	.000150			
10,000	50,000	.001650	.000150			
10,200	51,000	.001650	0.			
10,400	52,000	.001700	.000050			
10,600	53,000	.001800	.000100			
10,800	54,000	.001850	.000050			
11,000	55,000	.001900	.000050			
11,200	56,000	.002000	.000100			Elastic limit.
11,400	57,000	.002250	.000250			
11,600	58,000	.003000	.000750			
11,800	59,000	.003300	.000300			
12,000	60,000	.003800	.000500			
12,400	62,000	.006250	.002450			
12,800	64,000	.010000	.003750			
13,200	66,000	.012000	.002000			
13,600	68,000	.014000	.002000			
14,000	70,000	.016500	.002500			
14,400	72,000	.019050	.002550			
14,800	74,000	.021550	.002500			
15,200	76,000	.024250	.002700			
15,600	78,000	.027500	.003250			
16,000	80,000	.031250	.003750			
16,400	82,000	.035600	.004350			
16,800	84,000	.039500	.003900			
17,200	86,000	.045250	.005750			
17,600	88,000	.0500	.004750			
18,000	90,000	.0550	.0050			
18,400	92,000	.0800	.0250			
18,680	93,400	.1300	.0500			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,400
Elastic limit per square inch of original section	do....	56,000
Elongation per inch after rupture	inch..	.1850
Elongation per inch under strain at elastic limit	do....	.002000
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½" from neck
Character of broken surface		silky, flaky
Elongation of inch sections		".30*, ".07

No. 2591.

Marks, $\frac{32\ T_1}{B\ T_5}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001500	.000150	.....	.....	
10,000	50,000	.001650	.000150	.....	.....	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	
11,000	55,000	.001900	.000100	.....	.....	Elastic limit.
11,200	56,000	.002250	.000350	.....	.....	
11,400	57,000	.003000	.0007.0	.....	.....	
11,600	58,000	.003900	.000900	.....	.....	
11,800	59,000	.004350	.000450	.....	.....	
12,000	60,000	.005650	.001300	.....	.....	
12,400	62,000	.008000	.002350	.....	.....	
12,800	64,000	.010500	.002500	.....	.....	
13,200	66,000	.012100	.001600	.....	.....	
13,600	68,000	.014050	.001950	.....	.....	
14,000	70,000	.016000	.001950	.....	.....	
14,400	72,000	.018500	.002500	.....	.....	
14,800	74,000	.020600	.002100	.....	.....	
15,200	76,000	.023000	.002400	.....	.....	
15,600	78,000	.026050	.003050	.....	.....	
16,000	80,000	.029550	.003500	.....	.....	
16,400	82,000	.032750	.003200	.....	.....	
16,800	84,000	.036000	.003250	.....	.....	
17,200	86,000	.040500	.004500	.....	.....	
17,600	88,000	.045750	.005250	.....	.....	
18,000	90,000	.0500	.004250	.....	.....	
18,400	92,000	.0600	.0100	.....	.....	
18,800	94,000	.0750	.0150	.....	.....	
19,200	96,000	.1050	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,000
Elastic limit per square inch of original section	do....	55,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do....	.001900
Reduction in diameter at point of rupture	do....	.105
Reduction in area after rupture, per centum of original section	t.....	37.1
Position of rupture		".75 from neck
Character of broken surface		silky, 80 per centum; granular, 20 per centum
Elongation of inch sections		".13, ".28*

No. 671.

Marks, $\frac{32\ T_1}{B\ T_6}$
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000300	.000200	0.	.....	
7,500	15,000	.000433	.000133	0.	.....	
10,000	20,000	.000600	.000167	0.	.....	
12,500	25,000	.000767	.000167	0.	.....	
15,000	30,000	.000967	.000200	0.	.....	
17,500	35,000	.001100	.000133	.....	.....	
20,000	40,000	.001300	.000200	.....	.....	
20,500	41,000	.001367	.000067	.....	.....	
21,000	42,000	.001400	.000033	.....	.....	
21,500	43,000	.001467	.000067	.....	.....	
22,000	44,000	.001500	.000033	.....	.....	
22,500	45,000	.001533	.000033	.....	.....	
23,000	46,000	.001600	.000067	.....	.....	
23,500	47,000	.001667	.000067	.....	.....	
24,000	48,000	.001733	.000066	.....	.....	Elastic limit.
24,500	49,000	.001867	.000134	.....	.....	
25,000	50,000	.002133	.000266	.....	.....	
25,500	51,000	.002900	.000767	.....	.....	
26,000	52,000	.003400	.000500	.....	.....	
26,500	53,000	.004200	.000800	.....	.....	
27,000	54,000	.005200	.001000	.....	.....	
47,100	94,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	48,000
Compression per inch under stress of elastic limit	inch..	001733
Ultimate strength per square inch of original section	pounds..	94,200
Manner of failure		triple flexure

No. 2592.

Marks, $\frac{32\ T_1}{M\ T_5}$
Diameter, ".505.
Sectional area, ".20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001400	.000150	.....	.....	
10,000	50,000	.001600	.000200	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001850	.000100	.....	.....	Elastic limit.
11,000	55,000	.002350	.000500	.....	.....	
11,200	56,000	.003200	.000850	.....	.....	
11,400	57,000	.004050	.000850	.....	.....	
11,600	58,000	.006000	.001950	.....	.....	
11,800	59,000	.007600	.001600	.....	.....	
12,000	60,000	.009000	.001400	.....	.....	
12,400	62,000	.010750	.001750	.....	.....	
12,800	64,000	.012750	.002000	.....	.....	
13,200	66,000	.014800	.002050	.....	.....	
13,600	68,000	.017000	.002200	.....	.....	
14,000	70,000	.019050	.002050	.....	.....	
14,400	72,000	.021250	.002200	.....	.....	
14,800	74,000	.024000	.002750	.....	.....	
15,200	76,000	.027000	.003000	.....	.....	
15,600	78,000	.029800	.002800	.....	.....	
16,000	80,000	.033950	.004150	.....	.....	
16,400	82,000	.038500	.004550	.....	.....	
16,800	84,000	.043000	.004500	.....	.....	
17,200	86,000	.046550	.003550	.....	.....	
17,600	88,000	.050000	.003450	.....	.....	
18,000	90,000	.0550	.0050	.....	.....	
18,400	92,000	.0800	.0250	.....	.....	
18,800	94,000	.1050	.0250	.....	.....	
18,920	94,600	.1150	.0100	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,600
Elastic limit per square inch or original section	do....	54,000
Elongation per inch after rupture	inch .	.2650
Elongation per inch under strain at elastic limit	do ...	.001850
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".65 from neck
Character of broken surface		silky, flaky
Elongation of inch sections		".30", ".23

No. 2593.

Marks, $\frac{32\ T.}{M\ T.}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial l
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.0006.0	.000250	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001500	.000200	.....	.....	
10,000	50,000	.001650	.000150	.....	.....	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001800	.000100	.....	.....	Elastic limit.
10,800	54,000	.002000	.000200	.....	.....	
11,000	55,000	.002200	.000200	.....	.....	
11,200	56,000	.002550	.000350	.....	.....	
11,400	57,000	.004250	.001700	.....	.....	
11,600	58,000	.005600	.001350	.....	.....	
11,800	59,000	.007400	.001800	.....	.....	
12,000	60,000	.008600	.001200	.....	.....	
12,400	62,000	.011000	.002400	.....	.....	
12,800	64,000	.013500	.002500	.....	.....	
13,200	66,000	.015500	.002000	.....	.....	
13,600	68,000	.018250	.002750	.....	.....	
14,000	70,000	.020750	.092500	.....	.....	
14,400	72,000	.023750	.003000	.....	.....	
14,800	74,000	.026800	.003050	.....	.....	
15,200	76,000	.029000	.002200	.....	.....	
15,600	78,000	.032500	.003500	.....	.....	
16,000	80,000	.036750	.004250	.....	.....	
16,400	82,000	.041500	.004750	.....	.....	
16,800	84,000	.047500	.006000	.....	.....	
17,200	86,000	.052500	.005000	.....	.....	
17,600	88,000	.0600	.0075	.....	.....	
18,000	90,000	.0850	.0250	.....	.....	
18,380	91,900	.1350	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,900
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2350
Elongatio n per inch under strain at elastic limit	do....	.00180
Reluction in diameter at point of rupture	do....	.120
Reduction in area after rupture, per centum of original section		43.5
Position of rupture		".55 from neck
Character of broken surface		silky
Elongation of inch sections		".14, ".333

No. 2196.

Marks, $\frac{32\ T.}{B\ T.}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	0.00100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000550	.000200	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
9,600	48,000	.001600	.000150	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	Elastic limit.
10,000	50,000	.003000	.001350	.....	.....	
10,200	51,000	.004000	.001000	.....	.....	
10,400	52,000	.005000	.001000	.....	.....	
10,600	53,000	.006000	.001000	.....	.....	
10,800	54,000	.007000	.001000	.....	.....	
11,000	55,000	.008050	.001050	.....	.....	
11,200	56,000	.009000	.000950	.....	.....	
11,400	57,000	.010000	.001000	.....	.....	
11,600	58,000	.010850	.000850	.....	.....	
11,800	59,000	.011950	.001100	.....	.....	
12,000	60,000	.013150	.001200	.....	.....	
12,400	62,000	.015600	.002450	.....	.....	
12,800	64,000	.017750	.002150	.....	.....	
13,200	66,000	.020000	.002250	.....	.....	
13,600	68,000	.022750	.002750	.....	.....	
14,000	70,000	.025200	.002450	.....	.....	
14,400	72,000	.028400	.003200	.....	.....	
14,800	74,000	.031700	.003300	.....	.....	
15,200	76,000	.036050	.004350	.....	.....	
15,600	78,000	.040600	.004550	.....	.....	
16,000	80,000	.046000	.005400	.....	.....	
16,400	82,000	.052500	.006500	.....	.....	
16,800	84,000	.0600	.0075	.....	.....	
17,200	86,000	.0750	.0150	.....	.....	
17,600	88,000	.1000	.0250	.....	.....	
17,700	88,500	.1500	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,500
Elastic limit per square inch of original section	do ...	49,000
Elongation per inch after rupture	inch..	.2450
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".75 from neck
Character of broken surface		silky, slightly granular
Elongation of inch sections		".34*, ".15

No. 2197.

Marks, $\frac{32\ T_5}{B\ T^4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	— .000050	— .000050	
2,000	10,000	.000200	.000100	— .000050	0.	
3,000	15,000	.000350	.000150	— .000050	0.	
4,000	20,000	.000550	.000200	— .000050	0.	
5,000	25,000	.000650	.000100	— .000050	0.	
6,000	30,000	.000850	.000200	— .000050	0.	
7,000	35,000	.000950	.000100	— .000050	0.	
8,000	40,000	.001150	.000200	— .000050	0.	
8,600	43,000	.001200	.000050	.....	.....	
8,800	44,000	.001250	.000050	.....	.....	Elastic limit.
9,000	45,000	.001550	.000300	.....	.....	
9,200	46,000	.002200	.000650	.....	.....	
9,400	47,000	.003250	.001050	.....	.....	
9,600	48,000	.004600	.001350	.....	.....	
9,800	49,000	.005350	.000750	.....	.....	
10,000	50,000	.006600	.001250	.....	.....	
10,200	51,000	.007250	.000650	.....	.....	
10,400	52,000	.008250	.001000	.....	.....	
10,600	53,000	.009250	.001000	.....	.....	
10,800	54,000	.010500	.001250	.....	.....	
11,000	55,000	.011500	.001000	.....	.....	Rested under load one hour.
11,200	56,000	.012500	.001000	.....	.....	
11,400	57,000	.013000	.000500	.....	.....	
11,600	58,000	.013900	.000900	.....	.....	
11,800	59,000	.015100	.001200	.....	.....	
12,000	60,000	.016700	.001600	.....	.....	
12,400	62,000	.019000	.002300	.....	.....	
12,800	64,000	.021150	.002150	.....	.....	
13,200	66,000	.024250	.003100	.....	.....	
13,600	68,000	.027250	.003000	.....	.....	
14,000	70,000	.030000	.002750	.....	.....	
14,400	72,000	.034000	.004000	.....	.....	
14,800	74,000	.039000	.005000	.....	.....	
15,200	76,000	.043000	.004000	.....	.....	
15,600	78,000	.049500	.006500	.....	.....	
15,000	80,000	.052250	.002750	.....	.....	
16,400	82,000	.0650	.012750	.....	.....	
16,860	84,000	.0800	.0150	.....	.....	
17,200	86,000	.1100	.0300	.....	.....	
17,250	86,250	.1500	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,250
Elastic limit per square inch of original section	do....	44,000
Elongation per inch after rupture	inch..	.2500
Elongation per inch under strain at elastic limit	do....	.001250
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		1".00 from neck
Character of broken surface		silky, slightly granular
Elongation of inch sections		".35", ".15

No. 614.

Marks, $\frac{32\ T_2}{B\ T_2}$.
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000300	.000200	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000650	.000150	0.	.....	
12,500	25,000	.000800	.000150	0.	.....	
15,000	30,000	.001000	.000200	0.	.....	
17,500	35,000	.001200	.000200	0.	.....	
20,000	40,000	.001400	.000200	.000050	.000050	
20,500	41,000	.001450	.000050	.....	.....	
21,000	42,000	.001500	.000050	.....	.....	
21,500	43,000	.001500	0.	.....	.....	
22,000	44,000	.001550	.000050	.....	.....	
22,500	45,000	.001600	.000050	.000200	.000150	Elastic limit.
23,000	46,000	.001750	.000150	.....	.....	
23,500	47,000	.003000	.001250	.....	.....	
24,000	48,000	.007300	.004300	.006750	.006550	
24,500	49,000	.009600	.002300	.007800	.001050	
25,000	50,900	.010850	.001250	.009000	.001200	
44,800	89,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	45,000
Compression per inch under stress at elastic limit	inch..	.001600
Ultimate strength per square inch of original section	pounds..	89,600
Manner of failure		triple flexure.

No. 2198.

Marks, $\frac{32\ T.}{M.\ T.}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000900	.000200	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001250	.000200	0.	.....	
8,000	40,000	.001400	.000150	0.	.....	
9,000	45,000	.001550	.000150	0.	.....	
9,200	46,000	.001550	0.	.....	.....	
9,400	47,000	.001650	.000100	.....	.....	
9,600	48,000	.001700	.000050	.....	.....	Elastic limit.
9,800	49,000	.006500	.004800	.....	.....	
10,000	50,000	.007150	.000650	.....	.....	
10,200	51,000	.007900	.000750	.....	.....	
10,400	52,000	.008900	.001000	.....	.....	
10,600	53,000	.009900	.001000	.....	.....	
10,800	54,000	.011000	.001100	.....	.....	
11,000	55,000	.011900	.000900	.....	.....	
11,200	56,000	.012900	.001000	.....	.....	
11,400	57,000	.013900	.001000	.....	.....	
11,600	58,000	.015000	.001100	.....	.....	
11,800	59,000	.016000	.001000	.....	.....	
12,000	60,000	.016800	.000800	.....	.....	
12,400	62,000	.019800	.003000	.....	.....	
12,800	64,000	.022750	.002950	.....	.....	
13,200	66,000	.025100	.002350	.....	.....	
13,600	68,000	.028200	.003100	.....	.....	
14,000	70,000	.031750	.003550	.....	.....	
14,400	72,000	.035750	.004000	.....	.....	
14,800	74,000	.040600	.004850	.....	.....	
15,200	76,000	.045650	.005050	.....	.....	
15,600	78,000	.052250	.006600	.....	.....	
16,000	80,000	.0600	.007750	.....	.....	
16,400	82,000	.0750	.0150	.....	.....	
16,800	84,000	.0950	.0200	.....	.....	
17,070	85,350	.1500	.0550	.....	.....	Tensile strength.

General summary.

Tensile strength	pounds..	85,350
Elastic limit per square inch of original section	do....	48,000
Elongation per inch after rupture	inch..	.2400
Elongation per inch under strain at elastic limit	do...	.001700
Reduction of diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".90 from neck
Character of broken surface		silky, trace of granulation
Elongation of inch sections		".14, ".34"

No. 2199.

Marks, $\frac{32\ T_3}{M\ T_3}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001500	.000250	0.	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	
9,600	48,000	.001700	.000100	.....	.....	Elastic limit.
9,800	49,000	.002700	.001000	.....	.....	
10,000	50,000	.004300	.001600	.....	.....	
10,200	51,000	.005850	.001550	.....	.....	
10,400	52,000	.007550	.001700	.....	.....	
10,600	53,000	.008500	.000950	.....	.....	
10,800	54,000	.009500	.001000	.....	.....	
11,000	55,000	.010500	.001000	.....	.....	
11,200	56,000	.011500	.001000	.....	.....	
11,400	57,000	.012300	.000800	.....	.....	
11,600	58,000	.013300	.001000	.....	.....	
11,800	59,000	.014900	.001600	.....	.....	
12,000	60,000	.016000	.001100	.....	.....	
12,400	62,000	.018600	.002600	.....	.....	
12,800	64,000	.021000	.002400	.....	.....	
13,200	66,000	.024000	.003000	.....	.....	
13,600	68,000	.026500	.002500	.....	.....	
14,000	70,000	.029700	.003200	.....	.....	
14,400	72,000	.033000	.003300	.....	.....	
14,800	74,000	.037500	.004500	.....	.....	
15,200	76,000	.041750	.004250	.....	.....	
15,600	78,000	.047850	.006100	.....	.....	
16,000	80,000	.052500	.004650	.....	.....	
16,400	82,000	.0600	.0075	.....	.....	
16,800	84,000	.0800	.0200	.....	.....	
17,200	86,000	.1100	.0300	.....	.....	
17,320	86,600	.1450	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,600
Elastic limit per square inch of original section	do....	48,000
Elongation per inch after rupture	inch..	.2500
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.40 from neck
Character of broken surface		silky
Elongation of inch sections		″.33⁴, ″.17

No. 1651.

Marks, $\frac{32}{B}\frac{Ts}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001500	.000150	0.	.....	
10,200	51,000	.001550	.000050	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001650	0.	.....	.....	
11,000	55,000	.001700	.000050	0.	.....	
11,200	56,000	.001700	0.	.....	.....	
11,400	57,000	.001750	.000050	.....	.....	
11,600	58,000	.001800	.000050	.....	.....	Elastic limit.
11,800	59,000	.002500	.000700	.....	.....	
12,000	60,000	.003050	.000550	.001550	.001550	
12,400	62,000	.006000	.002950	.....	.....	
12,800	64,000	.008600	.002600	.....	.....	
13,200	66,000	.011000	.002400	.....	.....	
13,600	68,000	.013150	.002150	.....	.....	
14,000	70,000	.015500	.002350	.....	.....	
14,400	72,000	.017500	.002000	.....	.....	
14,800	74,000	.020000	.002500	.....	.....	
15,200	76,000	.022550	.002550	.....	.....	
15,600	78,000	.025500	.002950	.....	.....	
16,000	80,000	.028500	.003000	.....	.....	
16,400	82,000	.032250	.003750	.....	.....	
16,800	84,000	.035750	.003500	.....	.....	
17,200	86,000	.040500	.004750	.....	.....	
17,600	88,000	.046000	.005500	.....	.....	
18,000	90,000	.053500	.007500	.....	.....	
18,400	92,000	.063500	.010000	.....	.....	
18,800	94,000	.0900	.0265	.....	.....	
19,020	95,100	.1300	.040	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8705
Tensile strength per square inch of original section	pounds..	95,100
Elastic limit per square inch of original section	do....	58,000
Elongation per inch after rupture	inch..	.2350
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		".85 from neck
Character of broken surface		silky, traces of granulation
Elongation of inch sections		".32*, ".15

No. 1652.

Marks, $\frac{32\ T_3}{B\ T_3}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001100	.000150	0.	.....	
9,000	45,000	.001300	.000200	0.	.....	
10,000	50,000	.001450	.000150	0.	.....	
10,200	51,000	.001500	.000050	.....	.....	
10,400	52,000	.001550	.000050	.....	.....	
10,600	53,000	.001600	.000050	.....	.....	
10,800	54,000	.001650	.000050	.....	.....	Elastic limit.
11,000	55,000	.001950	.000300	.000250	.000250	
11,200	56,000	.002400	.000450	.....	.....	
11,400	57,000	.003600	.001200	.....	.....	
11,600	58,000	.004650	.001050	.....	.....	
11,800	59,000	.005700	.001050	.....	.....	
12,000	60,000	.006700	.001000	.004400	.004150	
12,400	62,000	.008250	.001550	.....	.....	
12,800	64,000	.010600	.002350	.....	.....	
13,200	66,000	.013100	.002500	.....	.....	
13,600	68,000	.015600	.002500	.....	.....	
14,000	70,000	.017600	.002000	.....	.....	
14,400	72,000	.020000	.002400	.....	.....	
14,800	74,000	.023050	.003050	.....	.....	
15,200	76,000	.025500	.002450	.....	.....	
15,600	78,000	.028750	.003250	.....	.....	
16,000	80,000	.032250	.003500	.....	.....	
16,400	82,000	.036050	.003800	.....	.....	
16,800	84,000	.040600	.004550	.....	.....	
17,200	86,000	.046750	.006150	.....	.....	
17,600	88,000	.054750	.008000	.....	.....	
18,000	90,000	.063500	.008750	.....	.....	
18,400	92,000	.082000	.018500	.....	.....	
18,550	92,750	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	92,750
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	.2300
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		".15 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".28", ".18

No. 567.

Marks, $\frac{32\ T_3}{B\ T_3}$
Length, 3″.991.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000450	.000200	0.	.....	
10,000	20,000	.000550	.000100	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000900	.000200	0.	.....	
17,500	35,000	.001050	.000150	.000050	.000050	
20,000	40,000	.001200	.000150	.000050	0.	
22,500	45,000	.001350	.000150	.000050	0.	
25,000	50,000	.001500	.000150	.000050	0.	
25,500	51,000	.001500	0.	.....	.....	
26,000	52,000	.001550	.000050	.....	.....	
26,500	53,000	.001550	0.	.....	.....	
27,000	54,000	.001600	.000050	.....	.....	
27,500	55,000	.001650	.000050	.000100	.000050	
28,000	56,000	.001650	0.	.....	.....	
28,500	57,000	.001700	.000050	.....	.....	
29,000	58,000	.001750	.000050	.....	.....	Elastic limit.
29,500	59,000	.002050	.000300	.....	.....	
30,000	60,000	.002650	.000600	.000750	.000650	
30,500	61,000	.003250	.000600	.....	.....	
31,000	62,000	.004250	.001000	.....	.....	
31,500	63,000	.005150	.000900	.....	.....	
32,000	64,000	.006050	.000900	.....	.....	
32,500	65,000	.006950	.000900	.004650	.003000	
49,500	99,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	58,000
Compression per inch under stress at elastic limit	inch..	0.001750
Ultimate strength per square inch of original section	pounds.	99,900
Manner of failure		triple flexure

No. 1653.

Marks, $\frac{32\ T_3}{M\ T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001750	.000050	.....	.....	Elastic limit.
11,000	55,000	.002050	.000300	.000250	.000250	
11,200	56,000	.002550	.000500	.....	.....	
11,400	57,000	.002950	.000400	.....	.....	
11,600	58,000	.003750	.000800	.....	.....	
11,800	59,000	.005150	.001400	.....	.....	
12,000	60,000	.006450	.001300	.004300	.004050	
12,400	62,000	.008700	.002250	.....	.....	
12,800	64,000	.010600	.001900	.....	.....	
13,200	66,000	.012900	.002300	.....	.....	
13,600	68,000	.015250	.002350	.....	.....	
14,000	70,000	.017750	.002500	.....	.....	
14,400	72,000	.020350	.002600	.....	.....	
14,800	74,000	.023250	.002900	.....	.....	
15,200	76,000	.026250	.003000	.....	.....	
15,600	78,000	.029000	.002750	.....	.....	
16,000	80,000	.032650	.003650	.....	.....	
16,400	82,000	.037000	.004350	.....	.....	
16,800	84,000	.041750	.004750	.....	.....	
17,200	86,000	.047000	.005250	.....	.....	
17,600	88,000	.054500	.007500	.....	.....	
18,000	90,000	.066500	.012000	.....	.....	
18,400	92,000	.083500	.017000	.....	.....	
18,560	92,900	.1150	.0315	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	92,900
Elastic limit per square inch of original section	do....	54,000
Elongation per inch after rupture	inch..	0.1200
Elongation per inch under strain at elastic limit	do ...	.001750
Reduction in diameter at point of rupture	do....	.035
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		".20 from neck
Character of broken surface		granular; contains flaky spot
Elongation of inch sections		".15*, ".09

No. 1654.

Marks, $\frac{32}{M}\ T_2$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	.0	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000350	.000100	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001350	.000100	0.	.....	
10,000	50,000	.001500	.000150	.000050	.000050	
10,200	51,000	.001550	.000050	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001750	.000100	.....	.....	Elastic limit.
11,000	55,000	.002250	.000500	.000400	.000350	
11,200	56,000	.002750	.000500	.....	.....	
11,400	57,000	.003400	.000650	.....	.....	
11,600	58,000	.004450	.001050	.....	.....	
11,800	59,000	.006000	.001550	.....	.....	
12,000	60,000	.007250	.001250	.004950	.004550	
12,400	62,000	.009150	.001900	.....	.....	
12,800	64,000	.010850	.001700	.....	.....	
13,200	66,000	.013150	.002300	.....	.....	
13,600	68,000	.015600	.002450	.....	.....	
14,000	70,000	.018050	.002450	.....	.....	
14,400	72,000	.020450	.002400	.....	.....	
14,800	74,000	.022850	.002400	.....	.....	
15,200	76,000	.025450	.002600	.....	.....	
15,600	78,000	.028600	.003150	.....	.....	
16,000	80,000	.032000	.003400	.....	.....	
16,400	82,000	.036100	.004100	.....	.....	
16,800	84,000	.040600	.004500	.....	.....	
17,200	86,000	.046550	.005950	.....	.....	
17,600	88,000	.053700	.007150	.....	.....	
18,000	90,000	.064250	.010550	.....	.....	
18,400	92,000	.0850	.020750	.....	.....	
18,680	93,400	.1150	.0300	.....	.....	Tensile strength.

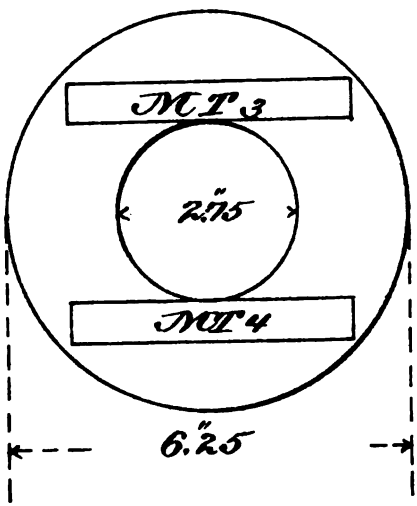
General summary.

Tensile strength per square inch of original section	pounds..	93,400
Elastic limit per square inch of original section	do ...	54,000
Elongation per inch after rupture	inch..	0.1950
Elongation per inch under strain at elastic limit	do....	.001750
Reduction in diameter at point of rupture	do....	.124
Reduction in area after rupture, per centum of original section	do. ..	43.3
Position of rupture		½ inch from neck
Character of broken surface		granular, 50 per centum; silky, 50 per centum
Elongation of inch sections		".29 ".10

Tube No. 3 3.2" Rifle

Additional specimens

Muzzle end



H Ex 31 49 2

No. 2238.

Marks, $\frac{22\ T.}{M\ T.}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000700	.000250	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
9,200	46,000	.001500	0.	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	Elastic limit.
10,000	50,000	.009950	.008300	.....	.....	
10,200	51,000	.010700	.000750	.....	.....	
10,400	52,000	.011450	.000750	.....	.....	
10,600	53,000	.013000	.001550	.....	.....	
10,800	54,000	.014150	.001150	.....	.....	
11,000	55,000	.015350	.001200	.....	.....	
11,200	56,000	.017000	.001650	.....	.....	
11,400	57,000	.017900	.000900	.....	.....	
11,600	58,000	.019150	.001250	.....	.....	
11,800	59,000	.020800	.001650	.....	.....	
12,000	60,000	.022250	.001450	.....	.....	
12,400	62,000	.025150	.002900	.....	.....	
12,800	64,000	.028500	.003350	.....	.....	
13,200	66,000	.032650	.004150	.....	.....	
13,600	68,000	.036200	.003550	.....	.....	
14,000	70,000	.042000	.005800	.....	.....	
14,400	72,000	.049000	.007000	.....	.....	
14,800	74,000	.056000	.007000	.....	.....	
15,200	76,000	.065600	.009600	.....	.....	
15,600	78,000	.0850	.0194	.....	.....	
16,000	80,000	.1050	.0200	.....	.....	
16,140	80,700	.1600	.0550	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,700
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.2850
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		½-inch from neck
Character of broken surface		silky
Elongation of inch sections		″.37*, ″.20

No. 2239.

Marks, $\frac{32\ T_3}{M\ T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

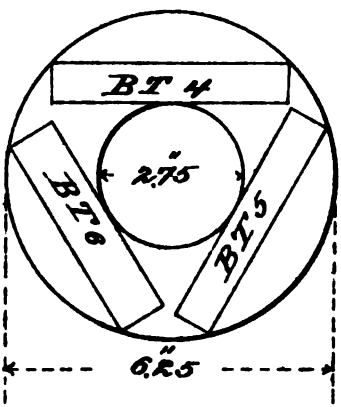
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000350	.000200	0.		
3,000	15,000	.000550	.000200	0.		
4,000	20,000	.000800	.000250	0.		
5,000	25,000	.000950	.000150	0.		
6,000	30,000	.001150	.000200	0.		
7,000	35,000	.001350	.000200	0.		
7,600	38,000	.001450	.000100			
7,800	39,000	.001550	.000100			Elastic limit.
8,000	40,000	.004650	.003100	.003300	.003300	
8,200	41,000	.010150	.005500			
8,400	42,000	.010650	.000500			
8,600	43,000	.011600	.000950			
8,800	44,000	.012550	.000950			
9,000	45,000	.013900	.001350			
9,200	46,000	.014750	.000850			
9,400	47,000	.016050	.001300			
9,600	48,000	.017000	.000950			
9,800	49,000	.017800	.000800			
10,000	50,000	.018750	.000950			
10,200	51,000	.021200	.002450			
10,400	52,000	.022800	.001600			
10,600	53,000	.023500	.000700			
10,800	54,000	.024750	.001250			
11,000	55,000	.026750	.002000			
11,200	56,000	.028750	.002000			
11,400	57,000	.030750	.002000			
11,600	58,000	.032500	.001750			
11,800	59,000	.035000	.002500			
12,000	60,000	.036500	.001500			
12,400	62,000	.042050	.005550			
12,800	64,000	.047500	.005450			
13,200	66,000	.055500	.008000			
13,600	68,000	.063250	.007750			
14,000	70,000	.0750	.011750			
14,400	72,000	.1000	.0250			
14,800	74,000	.1400	.0400			
14,910	74,550	.1900	.0500			Tensile strength.

General summary.

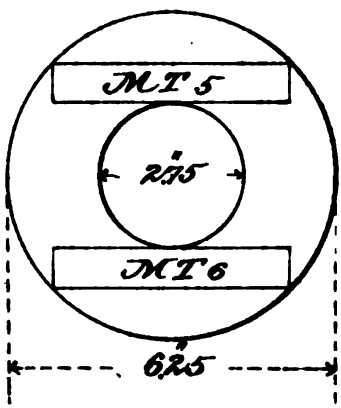
Tensile strength per square inch of original section	pounds	74,550
Elastic limit per square inch of original section	do	39,000
Elongation per inch after rupture	inch	0.2850
Elongation per inch under strain at elastic limit	do	.001550
Reduction in diameter at point of rupture	do	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		§ inch from neck
Character of broken surface		silky
Elongation of inch sections		".40," ".17

New Tube No 3 3.2" Rifle

Breech end



Muzzle end



H Ex 31 49 2

No. 2700.

Marks, $\frac{32\ T_3}{B\ T_4}$
Diameter, ″.506.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000650	.000100	.000050	.000050	
6,000	30,000	.000850	.000200	.000050	0.	
7,000	35,000	.001050	.000200	.....	.....	
8,000	40,000	.001150	.000100	.....	.....	
9,000	45,000	.001300	.000150	.....	.....	
10,000	50,000	.001550	.000250	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	Elastic limit.
10,600	53,000	.002250	.000600	.....	.....	
10,800	54,000	.002900	.000650	.....	.....	
11,000	55,000	.004250	.001350	.....	.....	
11,200	56,000	.005250	.001000	.....	.....	
11,400	57,000	.006250	.001000	.....	.....	
11,600	58,000	.007250	.001000	.....	.....	
11,800	59,000	.008150	.000900	.....	.....	
12,000	60,000	.009100	.000950	.....	.....	
12,400	62,000	.011250	.002150	.....	.....	
12,600	64,000	.013000	.001750	.....	.....	
13,200	66,000	.015250	.002250	.....	.....	
13,600	68,000	.017500	.002250	.....	.....	
14,000	70,000	.019650	.002150	.....	.....	
14,400	72,000	.022250	.002600	.....	.....	
14,800	74,000	.025000	.002750	.....	.....	
15,200	76,000	.027500	.002500	.....	.....	
15,600	78,000	.030150	.002650	.....	.....	
16,000	80,000	.034250	.004100	.....	.....	
16,400	82,000	.038000	.003750	.....	.....	
16,800	84,000	.042500	.004500	.....	.....	
17,200	86,000	.050000	.007500	.....	.....	
17,600	88,000	.0600	.0100	.....	.....	
18,000	90,000	.0650	.0050	.....	.....	
18,400	92,000	.0750	.0100	.....	.....	
18,750	93,750	.1350	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,750
Elastic limit per square inch of original section	do....	52,000
Elongation per inch after rupture	inch..	.02350
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.126
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.45 from middle
Character of broken surface		silky
Elongation of inch sections		″.13, ″.34*

No. 2701.

Marks, $\frac{32\ T_8}{B\ T_8}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150.	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001400	.000150	.....	.....	
10,000	50,000	.001550	.000150	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001750	.000050	.....	.....	Elastic limit.
11,000	55,000	.002500	.000750	.....	.....	
11,200	56,000	.003100	.000600	.....	.....	
11,400	57,000	.004000	.000900	.....	.....	
11,600	58,000	.005000	.001000	.....	.....	
11,800	59,000	.006000	.001000	.....	.....	
12,000	60,000	.007000	.001000	.....	.....	
12,400	62,000	.008750	.001750	.....	.....	
12,800	64,000	.010500	.001750	.....	.....	
13,200	66,000	.012500	.002000	.....	.....	
13,600	68,000	.013750	.001250	.....	.....	
14,000	70,000	.015500	.001750	.....	.....	
14,400	72,000	.017750	.002250	.....	.....	
14,800	74,000	.020000	.002250	.....	.....	
15,200	76,000	.022500	.002500	.....	.....	
15,600	78,000	.025250	.002750	.....	.....	
16,000	80,000	.028000	.002750	.....	.....	
16,400	82,000	.030500	.002500	.....	.....	
16,800	84,000	.034500	.004000	.....	.....	
17,200	86,000	.038000	.003500	.....	.....	
17,600	88,000	.042000	.004000	.....	.....	
18,000	90,000	.046500	.004500	.....	.....	
18,400	92,000	.0550	.0085	.....	.....	
18,800	94,000	.0600	.0050	.....	.....	
19,200	96,000	.0750	.0150	.....	.....	
19,490	97,450	.1150	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,450
Elastic limit per square inch of original section	do....	54,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do....	.001750
Reduction in diameter at point of rupture	do....	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		½ inch from neck
Character of broken surface		granular, dull flaky center
Elongation of inch sections		".11, ".25*

No. 670.

Marks, $\frac{32\ T_3}{B\ T_6}$
Length, 4″.003.
Diameter, ″.785.
Sectional area, .484 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
484	1,000	0.	0.	0.	0.	Initial load.
2,420	5,000	.000167	.000167	0.	.....	
4,840	10,000	.000333	.000166	0.	.....	
7,260	15,000	.000500	.000167	0.	.....	
9,680	20,000	.000667	.000167	0.	.....	
12,100	25,000	.000833	.000166	0.	.....	
14,520	30,000	.001000	.000167	0.	.....	
16,940	35,000	.001167	.000167	0.	.....	
19,360	40,000	.001367	.000200	0.	.....	
19,844	41,000	.001367	0.	.....	.....	
20,328	42,000	.001400	.000033	.....	.....	
20,812	43,000	.001433	.000033	.....	.....	
21,296	44,000	.001500	.000067	.....	.....	
21,780	45,000	.001533	.000033	.....	.....	
22,264	46,000	.001567	.000034	.....	.....	
22,748	47,000	.001600	.000033	.....	.....	Elastic limit.
23,232	48,000	.001767	.000167	.....	.....	
23,716	49,000	.002500	.000733	.....	.....	
24,200	50,000	.003067	.000567	.....	.....	
24,684	51,000	.003900	.000833	.....	.....	
25,168	52,000	.004933	.001033	.....	.....	
48,100	99,380	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	47,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds..	99,380
Manner of failure		triple flexure

No. 2702.

Marks, $\frac{32\ T_3}{M\ T_5}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000400	.000300	0.	.....	
3,000	15,000	.000500	.000100	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000900	.000250	0.	.....	
6,000	30,000	.001000	.000100	0.	.....	
7,000	35,000	.001250	.000250	0.	.....	
8,000	40,000	.001450	.000200	0.	.....	
9,000	45,000	.001600	.000150	.....	.....	
10,000	50,000	.001800	.000200	.....	.....	
10,200	51,000	.001850	.000050	.....	.....	
10,400	52,000	.001900	.000050	.....	.....	
10,600	53,000	.001950	.000050	.....	.....	
10,800	54,000	.002000	.000050	.....	.....	
11,000	55,000	.002000	0.	.....	.....	
11,200	56,000	.002100	.000100	.....	.....	Elastic limit.
11,400	57,000	.002250	.000150	.....	.....	
11,600	58,000	.002500	.000250	.....	.....	
11,800	59,000	.002700	.000200	.....	.....	
12,000	60,000	.003100	.000400	.....	.....	
12,400	62,000	.004250	.001150	.....	.....	
12,800	64,000	.007000	.002750	.....	.....	
13,200	66,000	.008750	.001750	.....	.....	
13,600	68,000	.010600	.001850	.....	.....	
14,000	70,000	.012500	.001900	.....	.....	
14,400	72,000	.015150	.002650	.....	.....	
14,800	74,000	.017250	.002100	.....	.....	
15,200	76,000	.019250	.002000	.....	.....	
15,600	78,000	.022000	.002750	.....	.....	
16,000	80,000	.024500	.002500	.....	.....	
16,400	82,000	.027500	.003000	.....	.....	
16,800	84,000	.030400	.002900	.....	.....	
17,200	86,000	.034500	.004100	.....	.....	
17,600	88,000	.038750	.004250	.....	.....	
18,000	90,000	.043000	.004250	.....	.....	
18,400	92,000	.049000	.006000	.....	.....	
18,800	94,000	.0550	.0060	.....	.....	
19,200	96,000	.0650	.0100	.....	.....	
19,600	98,000	.0800	.0150	.....	.....	
19,820	99,100	.1300	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,100
Elastic limits per square inch of original section	do....	56,000
Elongation per inch after rupture	inch..	0.2200
Elongation per inch under strain of elastic limit	do....	.002100
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		".35 from middle of stem
Character of broken surface		granular, 20 per centum; silky, 80 per centum
Elongation of inch sections		".14, ".30*

No. 2703.

Marks, $\frac{32\ T_3}{M\ T_3}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	11,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001350	.000150	.....	.....	
10,000	50,000	.001500	.000150	.....	.....	
10,200	51,000	.001550	.000050	.....	.....	
10,400	52,000	.001550	0.	.....	.....	
10,600	53,000	.001600	.000050	.....	.....	
10,800	54,000	.001650	.000050	.....	.....	
11,000	55,000	.001700	.000050	.....	.....	
11,200	56,000	.001750	.000050	.....	.....	Elastic limit.
11,400	57,000	.002050	.000300	.....	.....	
11,600	58,000	.002500	.000450	.....	.....	
11,800	59,000	.003300	.000800	.....	.....	
12,000	60,000	.003700	.000400	.....	.....	
12,400	62,000	.005250	.001550	.....	.....	
12,800	64,000	.007350	.002100	.....	.....	
13,200	66,000	.009350	.002000	.....	.....	
13,600	68,000	.011000	.001650	.....	.....	
14,000	70,000	.012750	.001750	.....	.....	
14,400	72,000	.014850	.002100	.....	.....	
14,800	74,000	.016550	.001700	.....	.....	
15,200	76,000	.018750	.002200	.....	.....	
15,600	78,000	.020850	.002100	.....	.....	
16,000	80,000	.023150	.002300	.....	.....	
16,400	82,000	.025950	.002800	.....	.....	
16,800	84,000	.028600	.002650	.....	.....	
17,200	86,000	.032000	.003400	.....	.....	
17,600	88,000	.035150	.003150	.....	.....	
18,000	90,000	.038750	.003600	.....	.....	
18,400	92,000	.043500	.004750	.....	.....	
18,800	94,000	.049250	.005750	.....	.....	
19,200	96,000	.0550	.005750	.....	.....	
19,600	98,000	.0600	.0050	.....	.....	
20,000	100,000	.0850	.0250	.....	.....	
20,160	100,800	.1100	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,800
Elastic limit per square inch of original section	do....	56,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do....	.001750
Reduction in diameter at point of rupture	do....	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		″.45 from neck
Character of broken surface		granular, silky center
Elongation of inch sections		″.25 ″.09

No. 1655.

Marks, $\frac{32\ T_4}{B\ T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001350	.000200	0.	.....	
9,200	46,000	.001400	.000050	.....	.....	Elastic limit.
9,400	47,000	.002600	.001200	.....	.....	
9,600	48,000	.003200	.000600	.....	.....	
9,800	49,000	.005150	.001950	.....	.....	
10,000	50,000	.006350	.001200	.004500	.004500	
10,200	51,000	.007300	.000950	.....	.....	
10,400	52,000	.007800	.000500	.....	.....	
10,600	53,000	.008800	.001000	.....	.....	
10,800	54,000	.009800	.001000	.....	.....	
11,000	55,000	.010750	.000950	.008700	.004200	
11,200	56,000	.012000	.001250	.....	.....	
11,400	57,000	.012850	.000850	.....	.....	
11,600	58,000	.014150	.001300	.....	.....	
11,800	59,000	.015250	.001100	.....	.....	
12,000	60,000	.016250	.001000	.013950	.005250	
12,400	62,000	.019350	.003100	.....	.....	
12,800	64,000	.021700	.002350	.....	.....	
13,200	66,000	.024500	.002800	.....	.....	
13,600	68,000	.028000	.003500	.....	.....	
14,000	70,000	.031050	.003050	.....	.....	
14,400	72,000	.034750	.003700	.....	.....	
14,800	74,000	.039000	.004250	.....	.....	
15,200	76,000	.045000	.006000	.....	.....	
15,600	78,000	.050600	.005600	.....	.....	
16,000	80,000	.059500	.008900	.....	.....	
16,400	82,000	.073500	.014000	.....	.....	
16,800	84,000	.1000	.0265	.....	.....	
16,980	84,900	.1450	.0450	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8724
Tensile strength per square inch of original section	pounds..	84,900
Elastic limit per square inch of original section	do ...	46,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do....	.001400
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		".70 from neck
Character of broken surface		silky
Elongation of inch sections		".37*, ".13

No. 1656.

Marks, $\frac{32\ T_4}{B\ T_2}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000400	.000100	0.	.....	
5,000	25,000	.000550	.000150	0.	.....	
6,000	30,000	.000700	.000150	0.	.....	
7,000	35,000	.000900	.000200	0.	.....	
8,000	40,000	.001100	.000200	0.	.....	
8,200	41,000	.001150	.000050	.....	.....	
8,400	42,000	.001150	0.	.....	.....	
8,600	43,000	.001200	.000050	.....	.....	
8,800	44,000	.001300	.000100	.....	.....	Elastic limit.
9,000	45,000	.004850	.003550	.003300	.003300	
9,200	46,000	.006500	.001650	.....	.....	
9,400	47,000	.007300	.000800	.....	.....	
9,600	48,000	.008400	.001100	.....	.....	
9,800	49,000	.009350	.000950	.....	.....	
10,000	50,000	.010600	.001250	.008800	.005500	
10,200	51,000	.011750	.001150	.....	.....	
10,400	52,000	.011600	.000850	.....	.....	
10,600	53,000	.013750	.001150	.....	.....	
10,800	54,000	.015000	.001250	.....	.....	
11,000	55,000	.016050	.001050	.....	.....	
11,200	56,000	.017450	.001400	.....	.....	
11,400	57,000	.019100	.001650	.....	.....	
11,600	58,000	.020100	.001000	.....	.....	
11,800	59,000	.021400	.001300	.....	.....	
12,000	60,000	.022900	.001500	.....	.....	
12,400	62,000	.025650	.002750	.....	.....	
12,800	64,000	.029000	.003350	.....	.....	
13,200	66,000	.033050	.004050	.....	.....	
13,600	68,000	.037000	.003950	.....	.....	
14,000	70,000	.042050	.005050	.....	.....	
14,400	72,000	.049000	.006950	.....	.....	
14,800	74,000	.056250	.007250	.....	.....	
15,200	76,000	.066500	.010250	.....	.....	
15,600	78,000	.084000	.017500	.....	.....	
16,000	80,000	.1100	.1260	.....	.....	
16,080	80,400	.1450	.1350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,400
Elastic limit per square inch of original section	....do....	44,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do....	.001300
Reduction in diameter at point of rupture	do....	.104
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		½ inch from neck
Character of broken surface		granular, 50 per centum; silky, 50 per centum
Elongation of inch sections		".30*, ".11

No. 568.

Marks, $\frac{32\ T_4}{B\ T_3}$
Length, 4″.004.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001050	.000200	0.	.....	
20,000	40,000	.001400	.000350	.000150	.000150	Elastic limit.
20,500	41,000	.001550	.000150	.....	.....	
21,000	42,000	.001700	.000150	.....	.....	
21,500	43,000	.001950	.000250	.....	.....	
22,000	44,000	.002600	.000650	.....	.....	
22,500	45,000	.003700	.001100	.002050	.001900	
23,000	46,000	.006300	.002600	.....	.....	
23,500	47,000	.008600	.002300	.....	.....	
24,000	48,000	.009350	.000750	.....	.....	
24,500	49,000	.010650	.001300	.....	.....	
25,000	50,000	.011800	.001150	.009850	.007800	
44,040	88,080	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	40,000
Compression per inch under stress at elastic limit	inch..	0.001400
Ultimate strength per square inch of original section	pounds..	88,080
Manner of failure		triple flexure

No. 1657.

Marks, $\frac{32\ T.}{M\ T.}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000350	.000250	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
8,200	41,000	.001300	0.	.....	.....	
8,400	42,000	.001350	.000050	.....	.....	
8,600	43,000	.001350	0.	.....	.....	
8,800	44,000	.001400	.000050	.....	.....	
9,000	45,000	.001400	0.	0.	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001550	.000050	.....	.....	
9,800	49,000	.001550	0.	.....	.....	
10,000	50,000	.001600	.000050	.000050	.000050	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	Elastic limit.
10,800	54,000	.001950	.000200	.....	.....	
11,000	55,000	.002300	.000350	.000400	.000350	
11,200	56,000	.003450	.001150	.....	.....	
11,400	57,000	.004900	.001450	.....	.....	
11,600	58,000	.006450	.001550	.....	.....	
11,800	59,000	.007200	.000750	.....	.....	
12,000	60,000	.008300	.001100	.006000	.005600	
12,400	62,000	.010600	.002300	.....	.....	
12,800	64,000	.013000	.002400	.....	.....	
13,200	66,000	.015500	.002500	.....	.....	
13,600	68,000	.017500	.002000	.....	.....	
14,000	70,000	.020350	.002850	.....	.....	
14,400	72,000	.023000	.002650	.....	.....	
14,800	74,000	.026100	.003100	.....	.....	
15,200	76,000	.029400	.003300	.....	.....	
15,600	78,000	.033250	.003850	.....	.....	
16,000	80,000	.037500	.004250	.....	.....	
16,400	82,000	.043000	.005500	.....	.....	
16,800	84,000	.049000	.006000	.....	.....	
17,200	86,000	.057500	.008500	.....	.....	
17,600	88,000	.071250	.013750	.....	.....	
18,000	90,000	.0950	.023750	.....	.....	
18,010	90,050	.1150	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,050
Elastic limits per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001750
Reduction in diameter at point of rupture	do....	".145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		½ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		".31", ".12

No. 1658.

Marks, $\frac{32\ T.}{M\ T.}$
Diameter, ″.505.
Sectional area, .20 square inch.

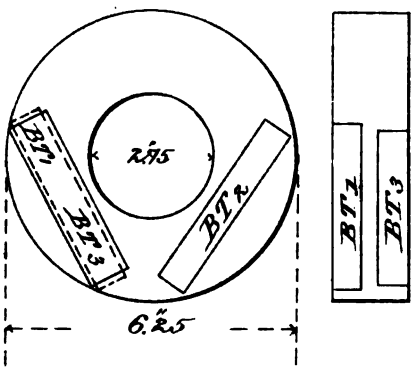
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	.000050	.000050	
9,000	45,000	.001400	.000100	.000050	0.	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001550	.000050	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	
10,000	50,000	.001650	.000050	.000100	.000050	Elastic limit.
10,200	51,000	.002000	.000350	.....	.....	
10,400	52,000	.002250	.000250	.....	.....	
10,600	53,000	.002800	.000550	.....	.....	
10,800	54,000	.004350	.001550	.....	.....	
11,000	55,000	.005850	.001500	.003900	.003800	
11,200	56,000	.006800	.000950	.....	.....	
11,400	57,000	.008000	.001200	.....	.....	
11,600	58,000	.009050	.001050	.....	.....	
11,800	59,000	.010450	.001400	.....	.....	
12,000	60,000	.011400	.000950	.009300	.005400	
12,400	62,000	.013700	.002300	.....	.....	
12,800	64,000	.016100	.002400	.....	.....	
13,200	66,000	.019150	.003050	.....	.....	
13,600	68,000	.022250	.003100	.....	.....	
14,000	70,000	.025600	.003350	.....	.....	
14,400	72,000	.028400	.002800	.....	.....	
14,800	74,000	.031600	.003200	.....	.....	
15,200	76,000	.035850	.004250	.....	.....	
15,600	78,000	.041000	.005150	.....	.....	
16,000	80,000	.046250	.005250	.....	.....	
16,400	82,000	.055000	.008750	.....	.....	
16,800	84,000	.066000	.011000	.....	.....	
17,200	86,000	.083500	.017500	.....	.....	
17,370	86,850	.1250	.0415	.....	.....	Tensile strength.

General summary.

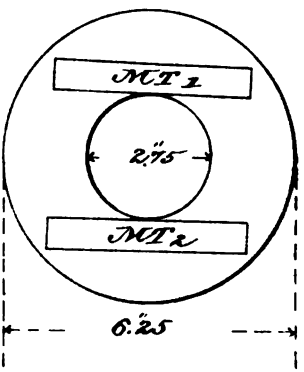
Tensile strength per square inch of original section	pounds..	86,850
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.80 from neck
Character of broken surface		silky
Elongation of inch sections		″.35, ″.10

Tube No. 5 3.2" Rifle

Breech end



Muzzle end



H Ex 31 49 2

No. 2240.

Marks, $\frac{32\ T_5}{B\ T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	1,000	.000300	.000150	0.	.....	
3,000	15,000	.000550	.000250	0.	.....	
4,000	20,000	.000800	.000250	0.	.....	
5,000	25,000	.001050	.000250	.000050	.000050	
6,000	30,000	.001200	.000150	.000050	0.	
7,000	35,000	.001400	.000200	.000100	.000050	
8,000	40,000	.001550	.000150	.000100	0.	
9,000	45,000	.001700	.000150	.000100	0.	
9,200	46,000	.001750	.000050	.....	.....	
9,400	47,000	.001800	.000050	.....	.....	
9,600	48,000	.001800	0.	.....	.....	
9,800	49,000	.001800	0.	.....	.....	Elastic limit.
10,000	50,000	.003850	.002050	.....	.....	
10,200	51,000	.005850	.002000	.....	.....	
10,400	52,000	.007400	.001550	.....	.....	
10,600	53,000	.008650	.001250	.....	.....	
10,800	54,000	.010000	.001350	.....	.....	
11,000	55,000	.010750	.000750	.....	.....	
11,200	56,000	.012000	.001250	.....	.....	
11,400	57,000	.012750	.000750	.....	.....	
11,600	58,000	.013750	.001000	.....	.....	
11,800	59,000	.014750	.001000	.....	.....	
12,000	60,000	.015850	.001100	.....	.....	
12,400	62,000	.018500	.002650	.....	.....	
12,800	64,000	.020750	.002250	.....	.....	
13,200	66,000	.023500	.002750	.....	.....	
13,600	68,000	.026200	.002700	.....	.....	
14,000	70,000	.030000	.003800	.....	.....	
14,400	72,000	.034000	.004000	.....	.....	
14,800	74,000	.038000	.004000	.....	.....	
15,200	76,000	.042000	.004000	.....	.....	
15,600	78,000	.046500	.006500	.....	.....	
16,000	80,000	.051500	.009000	.....	.....	
16,400	82,000	.0700	.0125	.....	.....	
16,800	84,000	.0900	.0200	.....	.....	
17,030	85,150	.1350	.0450	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8651
Tensile strength per square inch of original section	pounds	85,150
Elastic limit per square inch of original section	do	49,000
Elongation per inch after rupture	inch	0.2250
Elongation per inch under strain at elastic limit	do	.001800
Reduction in diameter at point of rupture	do	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		1″ from neck
Character of broken surface		silky
Elongation of inch sections		″.32*, ″.13

No. 2241.

Marks, $\frac{32\,T_5}{B\,T_9}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000550	.000250	0.	.....	
4,000	20,000	.000750	.000200	0.	.....	
5,000	25,000	.001000	.000250	0.	.....	
6,000	30,000	.001250	.000250	0.	.....	
7,000	35,000	.001400	.000150	0.	.....	
8,000	40,000	.001600	.000200	0.	.....	
9,000	45,000	.001750	.000150	0.	.....	
9,200	46,000	.001850	.000100	.....	.....	Elastic limit.
9,400	47,000	.002050	.000200	.....	.....	
9,600	48,000	.003500	.001450	.....	.....	
9,800	49,000	.005000	.001500	.....	.....	
10,000	50,000	.006000	.001000	.....	.....	
10,200	51,000	.007250	.001250	.....	.....	
10,400	52,000	.008150	.000900	.....	.....	
10,600	53,000	.009250	.001100	.....	.....	
10,800	54,000	.010250	.001000	.....	.....	
11,000	55,000	.011250	.001000	.....	.....	
11,200	56,000	.011950	.000700	.....	.....	
11,400	57,000	.012800	.000850	.....	.....	
11,600	58,000	.014350	.001550	.....	.....	
11,800	59,000	.015500	.001150	.....	.....	
12,000	60,000	.016450	.000950	.....	.....	
12,400	62,000	.018750	.002300	.....	.....	
12,800	64,000	.021050	.002300	.....	.....	
13,200	66,000	.023750	.002700	.....	.....	
13,600	68,000	.026750	.003000	.....	.....	
14,000	70,000	.030600	.003850	.....	.....	
14,400	72,000	.034500	.003900	.....	.....	
14,800	74,000	.038000	.003500	.....	.....	
15,200	76,000	.043000	.005000	.....	.....	
15,600	78,000	.048500	.005500	.....	.....	
16,000	80,000	.057500	.009000	.....	.....	
16,400	82,000	.0650	.007500	.....	.....	
16,800	84,000	.0900	.0250	.....	.....	
17,140	85,700	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	85,700
Elastic limit per square inch of original section	do ...	46,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		¾ inch from neck
Character of broken surface		silky, traces of granulation
Elongation of inch sections		″.35*, ″.12

No. 622.

Marks, $\frac{32\ T_3}{B\ T_3}$
Length, 3″.862.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000750	.000250	0.	.....	
12,500	25,000	.000850	.000100	0.	.....	
15,000	30,000	.001000	.000150	0.	.....	
17,500	35,000	.001200	.000200	0.	.....	
20,000	40,000	.001350	.000150	0.	.....	
20,500	41,000	.001450	.000100	.....	.....	
21,000	42,000	.001500	.000050	.....	.....	
21,500	43,000	.001500	0.	.....	.....	
22,000	44,000	.001500	0.	.....	.....	
22,500	45,000	.001500	0.	0.	.....	
23,000	46,000	.001550	.000050	.....	.....	
23,500	47,000	.001600	.000050	.....	.....	
24,000	48,000	.001650	.000050	.....	.....	Elastic limit.
24,500	49,000	.007250	.005600	.....	.....	
25,000	50,000	.007650	.000400	.005850	.005850	
46,800	93,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	48,000
Compression per inch under stress at elastic limit	inch..	.001650
Ultimate strength per square inch of original section	pounds..	93,600
Manner of failure		triple flexure

No. 2242.

Marks, $\frac{32}{M}\ \frac{T_5}{T_1}$
Diameter, $''$ .504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001450	.000250	0.	.....	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001700	.000100	.....	.....	
10,000	50,000	.001700	0.	0.	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001750	0.	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001850	.000050	.....	.....	
11,000	55,000	.001900	.000050	.....	.....	Elastic limit.
11,200	56,000	.012000	.000100	.....	.....	
11,400	57,000	.013000	.001050	.....	.....	
11,600	58,000	.013650	.000650	.....	.....	
11,800	59,000	.014700	.001050	.....	.....	
12,000	60,000	.015800	.001100	.....	.....	
12,400	62,000	.018750	.002950	.....	.....	
12,800	64,000	.021300	.002550	.....	.....	
13,200	66,000	.024700	.003400	.....	.....	
13,600	68,000	.027500	.002800	.....	.....	
14,000	70,000	.031150	.003650	.....	.....	
14,400	72,000	.035250	.004100	.....	.....	
14,800	74,000	.039550	.004300	.....	.....	
15,200	76,000	.044250	.004700	.....	.....	
15,600	78,000	.051500	.007250	.....	.....	
16,000	80,000	.060500	.009000	.....	.....	
16,400	82,000	.0700	.0095	.....	.....	
16,800	84,000	.1100	.0400	.....	.....	
16,900	84,500	.1250	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,500
Elastic limit per square inch of original section	do....	55,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do....	.001900
Reduction in diameter at point of rupture	do....	.164
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		$\frac{1}{2}$ inch from neck
Character of broken surface		silky
Elongation of inch sections		".35", ".10

No. 2243.

Marks, $\frac{32\ T_5}{M\ T_7}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
10,000	50,000	.001650	.000150	0.	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	Elastic limit.
10,800	54,000	.006400	.004600	.....	.....	
11,000	55,000	.009050	.002650	.....	.....	
11,200	56,000	.010000	.000950	.....	.....	
11,400	57,000	.011250	.001250	.....	.....	
11,600	58,000	.012250	.001000	.....	.....	
11,800	59,000	.013250	.001000	.....	.....	
12,000	60,000	.014500	.001250	.....	.....	
12,400	62,000	.017000	.002500	.....	.....	
12,800	64,000	.019250	.002250	.....	.....	
13,200	66,000	.021750	.002500	.....	.....	
13,800	69,000	.024650	.002900	.....	.....	
14,000	70,000	.027750	.003100	.....	.....	
14,400	72,000	.032000	.004250	.....	.....	
14,800	74,000	.035750	.003750	.....	.....	
15,200	76,000	.040000	.004250	.....	.....	
15,600	78,000	.045750	.005750	.....	.....	
16,000	80,000	.053000	.007250	.....	.....	
16,400	82,000	.062500	.009500	.....	.....	
16,800	84,000	.0800	.0175	.....	.....	
17,200	86,000	.1100	.0300	.....	.....	
17,210	86,050	.1350	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,050
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".32*, ".09

No. 1693.

Marks, $\frac{32\ T.}{B\ T.}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001050	.000100	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001350	.000100	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	
10,200	51,000	.001550	0.	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001700	.000050	.....	.....	Elastic limit.
11,000	55,000	.001900	.000200	.000150	.000150	
11,200	56,000	.002450	.000550	.....	.....	
11,400	57,000	.004000	.001550	.....	.....	
11,600	58,000	.005850	.001850	.....	.....	
11,800	59,000	.006700	.000850	.....	.....	
12,000	60,000	.008050	.001350	.005850	.005700	
12,400	62,000	.010600	.001550	.....	.....	
12,800	64,000	.012750	.002150	.....	.....	
13,200	66,000	.014900	.002150	.....	.....	
13,600	68,000	.017550	.002650	.....	.....	
14,000	70,000	.020100	.002550	.....	.....	
14,400	72,000	.023050	.002950	.....	.....	
14,800	74,000	.027000	.003950	.....	.....	
15,200	76,000	.030500	.003500	.....	.....	
15,600	78,000	.034500	.004000	.....	.....	
16,000	80,000	.037600	.003100	.....	.....	
16,400	82,000	.043000	.005400	.....	.....	
16,800	84,000	.050000	.007000	.....	.....	
17,200	86,000	.059000	.009000	.....	.....	
17,600	88,000	.072500	.013500	.....	.....	
17,870	89,350	.1150	.0425	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8702
Tensile strength per square inch of original section	pounds..	89.350
Elastic limit per square inch of original section	do ...	54.000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.114
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		§ inch from middle of stem
Character of broken surface		granular at circumference, dull center
Elongation of inch sections		″.30, ″.12

No. 1694.

Marks, $\frac{32\ T_6}{B\ T_7}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000550	.000200	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001000	.000100	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001650	0.	.....	.....	
10,800	54,000	.001700	.000050	.....	.....	
11,000	55,000	.001700	0.	0.	.....	
11,200	56,000	.001800	.000100	.....	.....	Elastic limit.
11,400	57,000	.002450	.000650	.....	.....	
11,600	58,000	.003550	.001100	.....	.....	
11,800	59,000	.006150	.002600	.....	.....	
12,000	60,000	.007400	.001250	.005150	.005150	
12,400	62,000	.009150	.001750	.....	.....	
12,800	64,000	.011650	.002500	.....	.....	
13,200	66,000	.014200	.002550	.....	.....	
13,600	68,000	.016700	.002500	.....	.....	
14,000	70,000	.019150	.002450	.....	.....	
14,400	72,000	.022250	.003100	.....	.....	
14,800	74,000	.025150	.002900	.....	.....	
15,200	76,000	.028400	.003250	.....	.....	
15,600	78,000	.032250	.003850	.....	.....	
16,000	80,000	.037600	.005350	.....	.....	
16,400	82,000	.041500	.003900	.....	.....	
16,800	84,000	.047800	.006300	.....	.....	
17,200	86,000	.056250	.008450	.....	.....	
17,600	88,000	.073500	.017250	.....	.....	
17,900	89,950	.1250	.0515	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,950
Elastic limit per square inch of original section	do ...	56,000
Elongation per inch after rupture	inch..	0.2550
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.154
Reduction in area after rupture, per centum of original section		51.0
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".30", ".21

No. 577.

Marks, $\frac{32\ T_6}{B\ T_2}$
Length, 3″.998.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
2,000	10,000	0.	.000150	0.	.....	
7,500	15,000	.000150	.000150	0.	.....	
20,000	40,000	.001250	.001100	.....	.....	
20,500	41,000	.001300	.000050	.....	.....	
21,000	42,000	.001350	.000050	.....	.....	
21,500	43,000	.001350	0.	.....	.....	
22,000	44,000	.001400	.000050	.....	.....	
22,500	45,000	.001450	.000050	.000050	.000050	
23,000	46,000	.001450	0.	.....	.....	
23,500	47,000	.001500	.000050	.....	.....	
24,000	48,000	.001500	0.	.....	.....	
24,500	49,000	.001550	.000050	.....	.....	
25,000	50,000	.001600	.000050	.000050	0.	
25,500	51,000	.001650	.000050	.....	.....	
26,000	52,000	.001700	.000050	.....	.....	
26,500	53,000	.001750	.000050	.....	.....	
27,000	54,000	.001750	0.	.....	.....	Elastic limit.
27,500	55,000	.002550	.000800	.000650	.000600	
28,000	56,000	.002950	.000400	.....	.....	
28,500	57,000	.003400	.000450	.....	.....	
29,000	58,000	.004100	.000700	.....	.....	
29,500	59,000	.005050	.000950	.....	.....	
30,000	60,000	.006050	.001000	.008900	.008250	
48,300	96,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.001750
Ultimate strength per square inch of original section	pounds..	96,600
Manner of failure		triple flexure

No. 1695.

Marks, $\frac{32\ T.}{M\ T.}$
Diameter, $\frac{1}{4}$".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000400	.000200	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001300	.000100	0.	.....	
10,000	50,000	.001450	.000150	0.	.....	
10,200	51,000	.001500	.000050	.....	.....	Elastic limit.
10,400	52,000	.004100	.002600	.....	.....	
10,600	53,000	.005600	.001500	.....	.....	
10,800	54,000	.006550	.000950	.....	.....	
11,000	55,000	.007700	.001150	.005600	.005600	
11,200	56,000	.008650	.000950	.....	.....	
11,400	57,000	.009650	.001000	.....	.....	
11,600	58,000	.010500	.000850	.....	.....	
11,800	59,000	.011650	.001150	.....	.....	
12,000	60,000	.012750	.001100	.010350	.004750	
12,400	62,000	.014800	.002050	.....	.....	
12,800	64,000	.017400	.002600	.....	.....	
13,200	66,000	.019600	.002200	.....	.....	
13,600	68,000	.022650	.003050	.....	.....	
14,000	70,000	.025600	.002950	.....	.....	
14,400	72,000	.028900	.003300	.....	.....	
14,800	74,000	.032500	.003600	.....	.....	
15,200	76,000	.036850	.004350	.....	.....	
15,600	78,000	.041500	.004650	.....	.....	
16,000	80,000	.047350	.005750	.....	.....	
16,400	82,000	.056750	.009500	.....	.....	
16,800	84,000	.066800	.010050	.....	.....	
17,200	86,000	.0850	.0182	.....	.....	
17,420	87,100	.1300	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,100
Elastic limit per square inch of original section	do....	51,000
Elongation per inch after rupture	inch..	0.2450
Elongation per inch under strain at elastic limit	do....	.001500
Reduction in diameter at point of rupture	do....	.154
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".38*, ".11

No. 1696.

Marks, $\frac{32\ T.}{M\ T.}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000800	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000000	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001400	.000150	0.	.....	
10,000	50,000	.001550	.000150	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	Elastic limit.
10,800	54,000	.001950	.000250	.....	.....	
11,000	55,000	.003050	.001100	.001150	.001150	
11,200	56,000	.004500	.001450	.....	.....	
11,400	57,000	.006150	.001650	.....	.....	
11,600	58,000	.007150	.001000	.....	.....	
11,800	59,000	.008350	.001200	.....	.....	
12,000	60,000	.009350	.001000	.007150	.006000	
12,400	62,000	.011700	.002350	.....	.....	
12,800	64,000	.013750	.002050	.....	.....	
13,200	66,000	.016500	.002750	.....	.....	
13,600	68,000	.018700	.002200	.....	.....	
14,000	70,000	.021250	.002550	.....	.....	
14,400	72,000	.024500	.003250	.....	.....	
14,800	74,000	.027700	.003200	.....	.....	
15,200	76,000	.031000	.003300	.....	.....	
15,600	78,000	.034750	.003750	.....	.....	
16,000	80,000	.039350	.004600	.....	.....	
16,400	82,000	.045750	.006400	.....	.....	
16,800	84,000	.052750	.007000	.....	.....	
17,200	86,000	.062500	.009750	.....	.....	
17,600	88,000	.079500	.017000	.....	.....	
17,860	89,300	.1300	.0505	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pound ..	89,300
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2550
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.154
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		".1 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".32* ".15

No. 2200.

Marks, $\frac{22\ T,}{BT_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001400	.000200	0.	.....	
10,000	50,000	.001550	.000150	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001700	0.	.....	.....	
11,000	55,000	.001750	.000050	.....	.....	
11,200	56,000	.001800	.000050	.....	.....	
11,400	57,000	.001850	.000050	.....	.....	
11,600	58,000	.001900	.000050	.....	.....	Elastic limit.
11,800	59,000	.002200	.000300	.....	.....	
12,000	60,000	.003200	.001000	.....	.....	
12,200	61,000	.004600	.001400	.....	.....	
12,400	62,000	.007100	.002500	.....	.....	
12,600	63,000	.008450	.001350	.....	.....	
12,800	64,000	.009600	.001150	.....	.....	
13,000	65,000	.010650	.001050	.....	.....	
13,200	66,000	.011850	.001200	.....	.....	
13,400	67,000	.012900	.001050	.....	.....	
13,600	68,000	.014050	.001150	.....	.....	
13,800	69,000	.015250	.001200	.....	.....	
14,000	70,000	.016500	.001250	.....	.....	
14,400	72,000	.019000	.002500	.....	.....	
14,800	74,000	.021500	.002500	.....	.....	
15,200	76,000	.024700	.003200	.....	.....	
15,600	78,000	.028000	.003300	.....	.....	
16,000	80,000	.032000	.0040 0	.....	.....	
16,400	82,000	.036400	.004400	.....	.....	
16,800	84,000	.040600	.004200	.....	.....	
17,200	86,000	.046150	.005550	.....	.....	
17,600	88,000	.053000	.006850	.....	.....	
18,000	90,000	.0650	.0120	.....	.....	
18,400	92,000	.0950	.0300	.....	.....	
18,490	92,450	.1150	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	92,450
Elastic limit per square inch of original section	do....	58,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		¾ inch from neck
Character of broken surface		silky center, granular at circumference
Elongation of inch sections		".12, ".35*

No. 2201.

Marks, $\frac{32\ T_7}{B\ T_7}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001500	.000150	0.	.....	
10,000	50,000	.001650	.000150	0.	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001850	.000050	.....	.....	
11,000	55,000	.001900	.000050	.....	.....	
11,200	56,000	.001900	0.	.....	.....	
11,400	57,000	.001950	.000050	.....	.....	Elastic limit.
11,600	58,000	.002100	.000150	.....	.....	
11,800	59,000	.002550	.000450	.....	.....	
12,000	60,000	.003000	.000450	.000950	.000950	
12,400	62,000	.004250	.001250	.....	.....	
12,800	64,400	.007100	.002850	.....	.....	
13,200	66,000	.010600	.003500	.....	.....	
13,600	68,000	.013250	.002650	.....	.....	
14,000	70,000	.015900	.002650	.....	.....	
14,400	72,000	.018000	.002100	.....	.....	
14,800	74,000	.020600	.002600	.....	.....	
15,200	76,000	.024000	.003400	.....	.....	
15,600	78,000	.027500	.003500	.....	.....	
16,000	80,000	.031000	.003500	.....	.....	
16,400	82,000	.035000	.004000	.....	.....	
16,800	84,000	.039750	.004750	.....	.....	
17,200	86,000	.045600	.005850	.....	.....	
17,600	88,000	.052500	.006900	.....	.....	
18,000	90,000	.0650	.0125	.....	.....	
18,390	91,950	.1000	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,950
Elastic limit per square inch of original section	do ...	57,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do....	.001950
Reduction in diameter at point of rupture	do....	.134
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".30 from neck
Character of broken surface	silky, 50 per cent.; granular, 50 per cent.	
Elongation of inch sections		".26", ".08

No. 615.

Marks, $\frac{33\ T_1}{B\ T_2}$
Length, 4″.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	.000100	.000100	0.	0.	Initial load.
2,500	5,000	.000250	.000150	0.		
5,000	10,000	.000400	.000150	0.		
7,500	15,000	.000500	.000100	0.		
10,000	20,000	.000650	.000150	0.		
12,500	25,000	.000800	.000150	— .000050	— .000050	
15,000	30,000	.000950	.000150	— .000050	0.	
17,500	35,000	.001100	.000150	— .000050	0.	
20,000	40,000	.001300	.000200	— .000050	0.	
22,500	45,000	.001350	.000050			
23,000	46,000	.001400	.000050			
23,500	47,000	.001450	.000050			
24,000	48,000	.001500	.000050			
24,500	49,000	.001550	.000050	— .000100	— .000050	
25,000	50,000	.001600	.000050			
25,500	51,000	.001650	.000050			
26,000	52,000	.001700	.000050			
26,500	53,000	.001750	.000050			Elastic limit.
27,000	54,000	.001900	.000150	.000100	.000200	
27,500	55,000	.002050	.000150			
28,000	56,000	.002350	.000300			
28,500	57,000	.003000	.000650			
29,000	58,000	.004100	.001100			
29,500	59,000	.005750	.001650	.003600	.003500	
30,000	60,000					Ultimate strength.
47,600	95,200					

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.001750
Ultimate strength per square inch of original section	pounds..	95,200
Manner of failure		triple flexure

No. 2202

Marks, $\frac{32\ T}{M\ T}$,
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000950	.000250	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001250	.000100	0.	.....	
9,000	45,000	.001400	.000150	0.	.....	
10,000	50,000	.001600	.000200	0.	.....	Elastic limit.
10,200	51,000	.008750	.007150	.....	.....	
10,400	52,000	.009500	.000750	.....	.....	
10,600	53,000	.010500	.001000	.....	.....	
10,800	54,000	.011650	.001150	.....	.....	
11,000	55,000	.012500	.000850	.....	.....	
11,200	56,000	.013600	.001100	.....	.....	
11,400	57,000	.014850	.001250	.....	.....	
11,600	58,000	.016000	.001150	.....	.....	
11,800	59,000	.017250	.001250	.....	.....	
12,000	60,000	.018750	.001500	.....	.....	
12,400	62,000	.021300	.002650	.....	.....	
12,800	64,000	.024250	.002950	.....	.....	
13,200	66,000	.027000	.002750	.....	.....	
13,600	68,000	.031000	.004000	.....	.....	
14,000	70,000	.034500	.003500	.....	.....	
14,400	72,000	.039000	.004500	.....	.....	
14,800	74,000	.044500	.005500	.....	.....	
15,200	76,000	.051000	.006500	.....	.....	
15,600	78,000	.0600	.0090	.....	.....	
16,000	80,000	.0700	.0100	.....	.....	
16,400	82,000	.1000	.0300	.....	.....	
16,620	83,100	.1350	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,100
Elastic limit per square inch of original section	do ...	50,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do....	.001000
Reduction in diameter at point of rupture	do....	.145
Reduction of area after rupture, per centum of original section		49.1
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".11, ".37

No. 2203.

Marks, $\frac{32\ T.}{M\ T.}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	.000050	.000050	
2,000	10,000	.000450	.000250	.000050	0.	
3,000	15,000	.000600	.000150	.000050	0.	
4,000	20,000	.000750	.000150	.000050	0.	
5,000	25,000	.000950	.000200	.000050	0.	
6,000	30,000	.001100	.000150	.000050	0.	
7,000	35,000	.001250	.000150	.000100	0.	
8,000	40,000	.001400	.000150	.000100	0.	
9,000	45,000	.001550	.000150	.000100	0.	
9,200	46,000	.001550	0.			
9,400	47,000	.001600	.000050			
9,600	48,000	.001650	.000050			
9,800	49,000	.001700	.000050			
10,000	50,000	.001750	.000050	.000160	.0	
10,200	51,000	.001800	.000050			
10,400	52,000	.001850	.000050			Elastic limit.
10,600	53,000	.006200	.004350			
10,800	54,000	.009100	.002900			
11,000	55,000	.010000	.000900			
11,200	56,000	.011000	.001000			
11,400	57,000	.012050	.001050			
11,600	58,000	.012900	.000850			
11,800	59,000	.014050	.001150			
12,000	60,000	.015150	.001100			
12,400	62,000	.017300	.002150			
12,800	64,000	.019800	.002500			
13,200	66,000	.022500	.002700			
13,600	68,000	.026000	.003500			
14,000	70,000	.029000	.003000			
14,400	72,000	.032700	.003700			
14,800	74,000	.037050	.004350			
15,200	76,000	.041500	.004450			
15,600	78,000	.047500	.006000			
16,000	80,000	.056000	.007500			
16,400	82,000	.0650	.0100			
16,800	84,000	.0800	.0150			
17,200	86,000	.1100	.0300			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,000
Elastic limit per square inch of original section	do....	52,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.144
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		".34", ".11

No. 1659.

Marks, $\frac{32\ T_3}{B\ T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000450	.000100	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001500	.000150	.....	.....	
9,800	49,000	.001650	.000150	.....	.....	Elastic limit.
10,000	50,000	.002100	.000450	.000450	.000450	
10,200	51,000	.003850	.001750	.....	.....	
10,400	52,000	.005100	.001250	.....	.....	
10,600	53,000	.006100	.001000	.....	.....	
10,800	54,000	.007000	.000900	.....	.....	
11,000	55,000	.007900	.000900	.005850	.005400	
11,200	56,000	.008550	.000650	.....	.....	
11,400	57,000	.009750	.001200	.....	.....	
11,600	58,000	.010250	.000500	.....	.....	
11,800	59,000	.011250	.001000	.....	.....	
12,000	60,000	.012150	.000900	.009850	.004000	
12,400	62,000	.014150	.002000	.....	.....	
12,800	64,000	.016250	.002100	.....	.....	
13,200	66,000	.018500	.002250	.....	.....	
13,600	68,000	.021000	.002500	.....	.....	
14,000	70,000	.023400	.002400	.....	.....	
14,400	72,000	.025950	.002550	.....	.....	
14,800	74,000	.029000	.003050	.....	.....	
15,200	76,000	.031800	.002800	.....	.....	
15,600	78,000	.035000	.003200	.....	.....	
16,000	80,000	.039300	.004300	.....	.....	
16,400	82,000	.044150	.004850	.....	.....	
16,800	84,000	.049800	.005650	.....	.....	
17,200	86,000	.057500	.007700	.....	.....	
17,600	88,000	.067000	.009500	.....	.....	
18,000	90,000	.0850	.0180	.....	.....	
18,320	91,600	.1250	.0400	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8720
Tensile strength per square inch of original section ..... pounds	91,600
Elastic limit per square inch of original section ..... do	49,000
Elongation per inch after rupture ..... inch	0.2250
Elongation per inch under strain at elastic limit ..... do	.001650
Reduction in diameter at point of rupture ..... do	.125
Reduction in area after rupture, per centum of original section	46.2
Position of rupture	½ inch from middle of stem
Character of broken surface	silky
Elongation of inch section	".32", ".13

No. 1660.

Marks, $\frac{22\ T_3}{B\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000300	.000150	0.		
3,000	15,000	.000450	.000150	0.		
4,000	20,000	.000650	.000200	0.		
5,000	25,000	.000800	.000150	0.		
6,000	30,000	.000950	.000150	0.		
7,000	35,000	.001100	.000150	0.		
8,000	40,000	.001250	.000150	0.		
9,000	45,000	.001450	.000200	0.		
9,600	48,000	.001600	.000150			
9,800	49,000	.001650	.000050			Elastic limit.
10,000	50,000	.002150	.000500	.000600	.000600	
10,200	51,000	.002650	.000500			
10,400	52,000	.003100	.000450			
10,600	53,000	.003850	.000750			
10,800	54,000	.004950	.001100			
11,000	55,000	.005850	.000900	.003850	.003250	
11,200	56,000	.006800	.000950			
11,400	57,000	.007800	.001000			
11,600	58,000	.008600	.000800			
11,800	59,000	.009700	.001100			
12,000	60,000	.010600	.000900	.008250	.004400	
12,400	62,000	.012750	.002150			
12,800	64,000	.014600	.001850			
13,200	66,000	.016850	.002250			
13,600	68,000	.019750	.002900			
14,000	70,000	.022250	.002500			
14,400	72,000	.025000	.002750			
14,800	74,000	.027500	.002500			
15,200	76,000	.030750	.003250			
15,600	78,000	.034250	.003500			
16,000	80,000	.038000	.003750			
16,400	82,000	.043000	.005000			
16,800	84,000	.048250	.005250			
17,200	86,000	.055500	.007250			
17,600	88,000	.066000	.010500			
18,000	90,000	.081250	.015250			
18,260	91,300	.1100	.028750			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,300
Elastic limit per square inch of original section	do ...	49,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		".31*, ".09

No. 569.

Marks, $\frac{32\ T_8}{B\ T_2}$
Length, 3″.998.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000350	.000100	0.	.....	
10,000	20,000	.000500	.000150	0.	.....	
12,500	25,000	.000650	.000150	0.	.....	
15,000	30,000	.000800	.000150	0.	.....	
17,500	35,000	.000950	.000150	0.	.....	
20,000	40,000	.001100	.000150	.000000	.000000	
22,500	45,000	.001250	.000150	.....	.....	
24,000	48,000	.001200	.000050	.....	.....	Elastic limit.
24,500	49,000	.001100	.000100	.....	.....	
25,000	50,000	.000950	.000150	— .000450	— .000450	Deflects convex on the micrometer side of the specimen.
25,500	51,000	.000600	.000250	.....	.....	
26,000	52,000	.000350	.000250	.....	.....	
26,500	53,000	.000150	.000200	.....	.....	
27,000	54,000	.000100	.000050	.....	.....	
27,500	55,000	.000100	0.	— .001450	— .001000	
47,650	95,300	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section.....pounds.. 48,000
Compression per inch under stress at elastic limit.....inch.. 0.001200
Ultimate strength per square inch of original section.....pounds.. 95,300
Manner of failure.....triple flexure

No. 1661.

Marks, $\frac{32\ T.}{M\ T.}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001500	.000250	0.	.....	
9,200	46,000	.001500	0.	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001550	0.	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	
10,000	50,000	.001650	.000050	0.	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001850	.000100	.....	.....	Elastic limit.
10,800	54,000	.002250	.000400	.....	.....	
11,000	55,000	.003800	.001550	.001950	.001950	
11,200	56,000	.004550	.000750	.....	.....	
11,400	57,000	.006250	.001700	.....	.....	
11,600	58,000	.008000	.001750	.....	.....	
11,800	59,000	.009100	.001100	.....	.....	
12,000	60,000	.009650	.000550	.007450	.005500	
12,400	62,000	.012150	.002500	.....	.....	
12,800	64,000	.014350	.002200	.....	.....	
13,200	66,000	.017150	.002800	.....	.....	
13,600	68,000	.020150	.003000	.....	.....	
14,000	70,000	.023150	.003000	.....	.....	
14,400	72,000	.026250	.003100	.....	.....	
14,800	74,000	.029750	.003500	.....	.....	
15,200	76,000	.034000	.004250	.....	.....	
15,600	78,000	.038750	.004750	.....	.....	
16,000	80,000	.044500	.005750	.....	.....	
16,400	82,000	.052000	.007500	.....	.....	
16,800	84,000	.061600	.009600	.....	.....	
17,200	86,000	.081500	.019900	.....	.....	
17,470	87,350	.1300	.0485	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,350
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2200
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".65 from neck
Character of broken surface		silky
Elongation of inch sections		".33", ".11

No. 1662.

Marks, $\frac{32\ T_s}{M\ T_s}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
9,200	46,000	.001450	0.	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001500	0.	.....	.....	
9,800	49,000	.001550	.000050	.....	.....	
10,000	50,000	.001600	.000050	0.	.....	
10,200	51,000	.001600	0.	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001800	.000100	.....	.....	Elastic limit.
11,000	55,000	.002150	.000350	.000400	.000400	
11,200	56,000	.002900	.000750	.....	.....	
11,400	57,000	.003500	.000600	.....	.....	
11,600	58,000	.004200	.000700	.....	.....	
11,800	59,000	.006450	.002250	.....	.....	
12,000	60,000	.007900	.001450	.005800	.005400	
12,400	62,000	.010350	.002450	.....	.....	
12,800	64,000	.012150	.001800	.....	.....	
13,200	66,000	.015000	.002850	.....	.....	
13,600	68,000	.017600	.002600	.....	.....	
14,000	70,000	.020600	.003000	.....	.....	
14,400	72,000	.023500	.002900	.....	.....	
14,800	74,000	.026700	.003200	.....	.....	
15,200	76,000	.030250	.003550	.....	.....	
15,600	78,000	.034500	.004250	.....	.....	
16,000	80,000	.039350	.004850	.....	.....	
16,400	82,000	.045600	.006250	.....	.....	
16,800	84,000	.052750	.007150	.....	.....	
17,200	86,000	.063750	.011000	.....	.....	
17,600	88,000	.083750	.020000	.....	.....	
17,740	88,700	.1300	.046250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	88,700
Elastic limit per square inch of original section	do	54,000
Elongation per inch after rupture	inch	0.2450
Elongation per inch under strain at elastic limit	do	.001800
Reduction in diameter at point of rupture	do	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".20 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".30*, ".19

No. 2204.

Marks, $\frac{32\ T.}{B\ T.}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000300	.000100	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001200	.000250	0.	.....	
8,000	40,000	.001300	.000100	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
10,000	50,000	.001650	.000200	0.	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001800	0.	.....	.....	
11,000	55,000	.001850	.000050	.....	.....	
11,200	56,000	.001900	.000050	.....	.....	Elastic limit.
11,400	57,000	.002050	.000150	.....	.....	
11,600	58,000	.002250	.000200	.....	.....	
11,800	59,000	.002800	.000550	.....	.....	
12,000	60,000	.003800	.001000	.....	.....	
12,200	61,000	.005250	.001450	.....	.....	
12,400	62,000	.007300	.002050	.....	.....	
12,600	63,000	.008600	.001300	.....	.....	
12,800	64,000	.010050	.001450	.....	.....	
13,000	65,000	.011500	.001450	.....	.....	
13,200	66,000	.013000	.001500	.....	.....	
13,400	67,000	.014500	.001500	.....	.....	
13,600	68,000	.015500	.001000	.....	.....	
13,800	69,000	.016750	.001250	.....	.....	
14,000	70,000	.017750	.001000	.....	.....	
14,400	72,000	.020150	.002400	.....	.....	
14,800	74,000	.023500	.003350	.....	.....	
15,200	76,000	.026500	.003000	.....	.....	
15,600	78,000	.030000	.003500	.....	.....	
16,000	80,000	.034100	.004100	.....	.....	
16,400	82,000	.039000	.004900	.....	.....	
16,800	84,000	.044750	.005750	.....	.....	
17,200	86,000	.053000	.008250	.....	.....	
17,600	88,000	.0800	.0070	.....	.....	
18,000	90,000	.0950	.0350	.....	.....	
18,090	90,450	.1150	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,450
Elastic limit per square inch of original section	do....	56,000
Elongation per inch after rupture	inch..	0.2450
Elongation per inch under strain at elastic limit	do....	.001900
Reduction in diameter at point of rupture	do....	.134
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		at middle of stem
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		".25", ".24"

No. 2205.

Marks, $\frac{32\ T.}{B\ T.}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000300	.000150	0.		
3,000	15,000	.000450	.000150	0.		
4,000	20,000	.000600	.000150	0.		
5,000	25,000	.000800	.000200	0.		
6,000	30,000	.001000	.000200	0.		
7,000	35,000	.001150	.000150	0.		
8,000	40,000	.001300	.000150	0.		
9,000	45,000	.001450	.000150	0.		
10,000	50,000	.001600	.000150	0.		
10,200	51,000	.001650	.000050			
10,400	52,000	.001700	.000050			
10,600	53,000	.001750	.000050			
10,800	54,000	.001800	.000050			
11,000	55,000	.001850	.000050			
11,200	56,000	.001900	.000050			
11,400	57,000	.001950	.000050			
11,600	58,000	.002000	.000050			
11,800	59,000	.002100	.000100			Elastic limit.
12,000	60,000	.002250	.000150			
12,200	61,000	.002750	.000500			
12,400	62,000	.004000	.001250			
12,600	63,000	.006200	.002200			
12,800	64,000	.007700	.001500			
13,000	65,000	.009000	.001300			
13,200	66,000	.010150	.001150			
13,400	67,000	.011500	.001350			
13,600	68,000	.012500	.001000			
13,800	69,000	.013500	.001000			
14,000	70,000	.014700	.001200			
14,400	72,000	.017000	.002300			
14,800	74,000	.019500	.002500			
15,200	76,000	.022800	.003300			
15,600	78,000	.025650	.002850			
16,000	80,000	.029000	.003350			
16,400	82,000	.032800	.003800			
16,800	84,000	.037500	.004700			
17,200	86,000	.042500	.005000			
17,600	88,000	.051000	.008500			
18,000	90,000	.0600	.0090			
18,400	92,000	.0700	.0100			
18,610	93,050	.1300	.0600			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,050
Elastic limit per square inch of original section	do....	59,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.002100
Reduction in diameter at point of rupture	do....	.124
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		at middle of stem
Character of broken surface		granular, dull silky center
Elongation of inch sections		".16, ".24*

No. 616.

Marks, $\frac{32\ T_2}{B\ T_2}$
Length, 3″.998.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001050	.000150	0.	.....	
20,000	40,000	.001250	.000200	0.	.....	
22,500	45,000	.001400	.000150	0.	.....	
25,000	50,000	.001500	.000100	0.	.....	
25,500	51,000	.001500	0.	.....	.....	
26,000	52,000	.001550	.000050	.....	.....	
26,500	53,000	.001600	.000050	.....	.....	
27,000	54,000	.001700	.000100	.....	.....	
27,500	55,000	.001750	.000050	.000100	.000100	
28,000	56,000	.001750	0.	.....	.....	
28,500	57,000	.001800	.000050	.....	.....	
29,000	58,000	.001850	.000050	.....	.....	
29,500	59,000	.001800	.000050	.....	.....	
30,000	60,000	.001750	.000050	— .000100	.000200	
30,500	61,000	.001750	0.	.....	.....	
31,000	62,000	.001800	.000050	.....	.....	Elastic limit.
31,500	63,000	.002100	.000300	.....	.....	
32,000	64,000	.002500	.000400	.....	.....	
32,500	65,000	.003250	.000750	.001250	.001350	
33,000	66,000	.004100	.000850	.....	.....	
33,500	67,000	.005200	.001100	.....	.....	
34,000	68,000	.006500	.001300	.....	.....	
34,500	69,000	.007500	.001000	.....	.....	
35,000	70,000	.008500	.001000	.006250	.005000	
48,800	97,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	62,000
Compression per inch under stress at elastic limit	inch..	0.001800
Ultimate strength, per square inch of original section	pounds..	97.600
Manner of failure		triple flexure

No. 2206.

Marks, $\frac{82\ T.}{M\ T.}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001550	.000200	0.	.....	
10,000	50,000	.001700	.000150	0.	.....	
10,200	51,000	.001700	0.	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001750	0.	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	
11,000	55,000	.001850	.000050	.....	.....	
11,200	56,000	.001900	.000050	.....	.....	Elastic limit.
11,400	57,000	.002050	.000150	.....	.....	
11,600	58,000	.002250	.000200	.....	.....	
11,800	59,000	.003000	.000750	.....	.....	
12,000	60,000	.003900	.000900	.....	.....	
12,200	61,000	.005300	.001400	.....	.....	
12,400	62,000	.007250	.001950	.....	.....	
12,600	63,000	.008200	.000950	.....	.....	
12,800	64,000	.009250	.001050	.....	.....	
13,000	65,000	.011000	.001750	.....	.....	
13,200	66,000	.012200	.001200	.....	.....	
13,600	68,000	.014750	.002550	.....	.....	
14,000	70,000	.016500	.001750	.....	.....	
14,400	72,000	.018600	.002100	.....	.....	
14,800	74,000	.022250	.003650	.....	.....	
15,200	76,000	.025300	.003050	.....	.....	
15,600	78,000	.028000	.002700	.....	.....	
16,000	80,000	.031250	.003250	.....	.....	
16,400	82,000	.035750	.004500	.....	.....	
16,800	84,000	.040500	.004750	.....	.....	
17,200	86,000	.046750	.006250	.....	.....	
17,600	88,000	.055000	.008250	.....	.....	
18,000	90,000	.0650	.0100	.....	.....	
18,400	92,000	.0950	.0300	.....	.....	
18,486	92,400	.1100	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	92,400
Elastic limit per square inch of original section	do....	56,000
Elongation per inch after rupture	inch....	0.2100
Elongation per inch under strain at elastic limit	do....	.001900
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".75 from neck
Character of broken surface	granular, 60 per centum; silky, 40 per centum	
Elongation of inch sections		".11, ".31*

No. 2207.

Marks, $\frac{32\ T.}{M\ T.}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001300	.000100	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
10,000	50,000	.001650	.000150	0.	.....	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	
11,000	55,000	.001850	.000050	.....	.....	Elastic limit.
11,200	56,000	.002000	.000150	.....	.....	
11,400	57,000	.002150	.000150	.....	.....	
11,600	58,000	.002900	.000750	.....	.....	
11,800	59,000	.004350	.001450	.....	.....	
12,000	60,000	.006800	.002450	.....	.....	
12,200	61,000	.008250	.001450	.....	.....	
12,400	62,000	.009350	.001100	.....	.....	
12,600	63,000	.010500	.001150	.....	.....	
12,800	64,000	.011600	.001100	.....	.....	
13,000	65,000	.013000	.001400	.....	.....	
13,200	66,000	.014250	.001250	.....	.....	
13,400	67,000	.015500	.001250	.....	.....	
13,600	68,000	.016500	.001000	.....	.....	
13,800	69,000	.017800	.001300	.....	.....	
14,000	70,000	.019150	.001350	.....	.....	
14,400	72,000	.021750	.002600	.....	.....	
14,800	74,000	.024500	.002750	.....	.....	
15,200	76,000	.028100	.003600	.....	.....	
15,600	78,000	.032500	.004400	.....	.....	
16,000	80,000	.036750	.004250	.....	.....	
16,400	82,000	.042000	.005250	.....	.....	
16,800	84,000	.048000	.006000	.....	.....	
17,200	86,000	.055000	.007000	.....	.....	
17,600	88,000	.0650	.0100	.....	.....	
18,000	90,000	.0900	.0250	.....	.....	
18,020	90,100	.1150	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,100
Elastic limit per square inch of original section	do....	55,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do ...	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".95 from neck
Character of broken surface		silky
Elongation of inch sections		".11, ".32*

No. 1176.

Marks, $\frac{32\ T_{10}}{B\ T_1}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001400	.000200	0.	.....	
10,000	50,000	.001550 .003050	.000150 .001500	.000050	.000050	Elastic limit.
10,200	51,000	.007100	.004050	.....	.....	
10,400	52,000	.007350	.000250	.....	.....	
10,600	53,000	.008000	.000650	.....	.....	
10,800	54,000	.008900	.000900	.....	.....	
11,000	55,000	.010350	.001450	.008300	.008250	
11,200	56,000	.010850	.000500	.....	.....	
11,400	57,000	.011800	.000950	.....	.....	
11,600	58,000	.013100	.001300	.....	.....	
11,800	59,000	.014250	.001150	.....	.....	
12,000	60,000	.015350	.001100	.012850	.004550	
12,400	62,000	.017650	.002300	.....	.....	
12,800	64,000	.020100	.002450	.....	.....	
13,200	66,000	.022800	.002700	.....	.....	
13,600	68,000	.026050	.003250	.....	.....	
14,000	70,000	.029250	.003200	.....	.....	
14,400	72,000	.032550	.003300	.....	.....	
14,800	74,000	.036950	.004400	.....	.....	
15,200	76,000	.041500	.004550	.....	.....	
15,600	78,000	.047250	.005750	.....	.....	
16,000	80,000	.055000	.007750	.....	.....	
16,400	82,000	.064500	.009500	.....	.....	
16,800	84,000	.079000	.014500	.....	.....	
17,200	86,000	.105000	.026000	.....	.....	
17,260	86,300	.1600	.0550	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8707
Tensile strength per square inch of original section ..... pounds	86,300
Elastic limit per square inch of original section ..... do	50,000
Elongation per inch after rupture ..... inch	0.2700
Elongation per inch under strain at elastic limit ..... do	.001550
Reduction in diameter at point of rupture ..... do	.144
Reduction in area after rupture, per centum of original section	49.1
Position of rupture	½ inch from neck
Character of broken surface	silky
Elongation of inch sections	″.38, ″.16

No. 1177.

Marks, $\frac{32\ T_{10}}{B\ T_2}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load
1,000	5,000	.000200	.000200	0.		
2,000	10,000	.000450	.000250	0.		
3,000	15,000	.000600	.000150	0.		
4,000	20,000	.000800	.000200	.000050	.000050	
5,000	25,000	.001000	.000200	.000050	0.	
6,000	30,000	.001150	.000150	.000050	0.	
7,000	35,000	.001350	.000200	.000100	.000050	
8,000	40,000	.001550	.000200	.000100	0.	
9,000	45,000	.001700	.000150	.000150	.000050	
10,000	50,000	.001850	.000150	.000200	.000050	Elastic limit.
		.002800	.000950	.001150	.000050	
10,200	51,000	.003450	.000650			
10,400	52,000	.007000	.003550			
10,600	53,000	.007900	.000900			
10,800	54,000	.008900	.001000			
11,000	55,000	.009650	.000750	.007400	.006250	
11,200	56,000	.010650	.001000			
11,400	57,000	.011150	.000500			
11,600	58,000	.012250	.001100			
11,800	59,000	.013250	.001000			
12,000	60,000	.014600	.001350	.012100	.004700	
12,400	62,000	.016800	.002200			
12,800	64,000	.019150	.002350			
13,200	66,000	.022050	.002900			
13,600	68,000	.024800	.002750			
14,000	70,000	.028100	.003300			
14,400	72,000	.031350	.003250			
14,800	74,000	.035150	.003800			
15,200	76,000	.040850	.005700			
15,600	78,000	.045600	.004750			
16,000	80,000	.051300	.005700			
16,400	82,000	.060000	.008700			
16,800	84,000	.071500	.011500			
17,200	86,000	.094000	.022500			
17,510	87,550	.1350	.0410			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,550
Elastic limit per square inch of original section	do ...	50,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.104
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		".40 from neck
Character of broken surface		silky
Elongation of inch sections		".31*, ".16

No. 564.

Marks, $\frac{32\ T_{10}}{B\ T_2}$
Length, 3″.996.
Diameter, ″.798.
Sectional area, .20 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000650	.000100	0.	.....	
15,000	30,000	.000850	.000200	0.	.....	
17,500	35,000	.001000	.000150	0.	.....	
20,000	40,000	.001150	.000150	0.	.....	
22,500	45,000	.001300	.000150	0.	.....	
25,000	50,000	.001450	.000150	0.	.....	Elastic limit.
25,500	51,000	.008150	.006700	.....	.....	
26,000	52,000	.009050	.000900	.....	.....	
26,500	53,000	.009700	.000650	.....	.....	
27,000	54,000	.010400	.000700	.....	.....	
27,500	55,000	.011250	.000850	.009250	.009250	
45,100	90,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001450
Ultimate strength per square inch of original section	pounds..	90,200
Manner of failure		triple flexure

No. 1178.

Marks, $\frac{32\ T_{10}}{M\ T_1}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000400	.000200	0.	.....	
3,000	15,600	.000550	.000150	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000900	.000200	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001350	.000150	.000050	.000050	
9,000	45,000	.001450	.000100	.....	.....	
9,800	49,000	.001550	.000100	.....	.....	Elastic limit.
10,000	50,000	.002750	.001200	.001150	.001100	
10,200	51,000	.003250	.000500	.....	.....	
10,400	52,000	.005600	.002350	.....	.....	
10,600	53,000	.007000	.001400	.....	.....	
10,800	54,000	.008000	.001000	.....	.....	
11,000	55,000	.008600	.000600	.000600	.005450	
11,200	56,000	.009450	.000850	.....	.....	
11,400	57,000	.010150	.000700	.....	.....	
11,600	58,000	.011300	.001150	.....	.....	
11,800	59,000	.012300	.001000	.....	.....	
12,000	60,000	.013300	.001000	.010950	.004350	
12,400	62,000	.015850	.002550	.....	.....	
12,800	64,000	.018200	.002350	.....	.....	
13,200	66,000	.020750	.002550	.....	.....	
13,600	68,000	.023250	.002500	.....	.....	
14,000	70,000	.026050	.002800	.....	.....	
14,400	72,000	.029250	.003200	.....	.....	
14,800	74,000	.032900	.003650	.....	.....	
15,200	76,000	.036900	.004000	.....	.....	
15,600	78,000	.041250	.004350	.....	.....	
16,000	80,000	.047650	.006400	.....	.....	
16,400	82,000	.054750	.007100	.....	.....	
16,800	84,000	.064700	.009950	.....	.....	
17,200	86,000	.078500	.013800	.....	.....	
17,500	87,500	.1200	.0415	.....	.....	Tensile strength.

General summary.

Tensile strength, per square inch of original section	pounds..	87,500
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.001550
Reduction in diameter at point of rupture	do....	.144
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.32*, ″.08

No. 1179.

Marks, $\frac{32\ T_{10}}{M\ T_2}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	.000050	.000050	
8,000	40,000	.001200	.000150	.000050	0.	
9,000	45,000	.001350	.000150	.000050	0.	
10,000	50,000	.001550	.000200	.000100	.000050	Elastic limit.
10,200	51,000	.002350	.000800	.....	.....	
10,400	52,000	.003000	.000650	.....	.....	
10,600	53,000	.003750	.000750	.....	.....	
10,800	54,000	.004650	.000900	.....	.....	
11,000	55,000	.005650	.001000	.003800	.003700	
11,200	56,000	.006000	.000350	.....	.....	
11,400	57,000	.006950	.000950	.....	.....	
11,600	58,000	.008450	.001500	.....	.....	
11,800	59,000	.009900	.001450	.....	.....	
12,000	60,000	.013100	.003200	.....	.....	
12,400	62,000	.014350	.001250	.....	.....	
12,800	64,000	.015850	.001500	.....	.....	
13,200	66,000	.018250	.002400	.....	.....	
13,600	68,000	.020850	.002600	.....	.....	
14,000	70,000	.023600	.002750	.....	.....	
14,400	72,000	.027500	.003900	.....	.....	
14,800	74,000	.029750	.002250	.....	.....	
15,200	76,000	.033550	.003800	.....	.....	
15,600	78,000	.038000	.004450	.....	.....	
16,000	80,000	.042850	.004850	.....	.....	
16,400	82,000	.048900	.006050	.....	.....	
16,800	84,000	.056800	.007900	.....	.....	
17,200	86,000	.067500	.010700	.....	.....	
17,600	88,000	.086750	.019250	.....	.....	
17,810	89,050	.1250	.038250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,050
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.001550
Reduction in diameter at point of rupture	do....	.134
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".40 from neck
Character of broken surface		silky
Elongation of inch sections		".30", ".10

No. 1663.

Marks, $\frac{32\ T_{11}}{B\ T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001500	.000150	.000050	.000050	
9,200	46,000	.001500	0.	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001700	.000100	.....	.....	Elastic limit.
10,000	50,000	.002850	.001150	.001200	.001150	
10,200	51,000	.003900	.001050	.....	.....	
10,400	52,000	.004850	.000950	.....	.....	
10,600	53,000	.005750	.000900	.....	.....	
10,800	54,000	.007000	.001250	.....	.....	
11,000	55,000	.007850	.000850	.005850	.004650	
11,200	56,000	.008350	.000500	.....	.....	
11,400	57,000	.009100	.000750	.....	.....	
11,600	58,000	.010350	.001250	.....	.....	
11,800	59,000	.011150	.000800	.....	.....	
12,000	60,000	.012350	.001200	.010050	.004200	
12,400	62,000	.014100	.001750	.....	.....	
12,800	64,000	.016000	.001900	.....	.....	
13,200	66,000	.018600	.002600	.....	.....	
13,600	68,000	.021000	.002400	.....	.....	
14,000	70,000	.023500	.002500	.....	.....	
14,400	72,000	.026250	.002750	.....	.....	
14,800	74,000	.029500	.003250	.....	.....	
15,200	76,000	.032700	.003200	.....	.....	
15,600	78,000	.036200	.003500	.....	.....	
16,000	80,000	.040850	.004650	.....	.....	
16,400	82,000	.046000	.005150	.....	.....	
16,800	84,000	.052300	.006300	.....	.....	
17,200	86,000	.060250	.007950	.....	.....	
17,600	88,000	.071500	.011250	.....	.....	
18,000	90,000	.096000	.024500	.....	.....	
18,110	90,550	.1200	.0240	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8657
Tensile strength per square inch of original section	pounds..	90,560
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		″.75 from neck
Character of broken surface		silky
Elongation of inch sections		″.32*, ″.11

No. 1664.

Marks, $\frac{32\ T_{11}}{F\ T_7}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
9,200	46,000	.001350	0.	.....	.....	
9,400	47,000	.001400	.000050	.....	.....	
9,600	48,000	.001450	.000050	.....	.....	
9,800	49,000	.001500	.000050	.....	.....	
10,000	50,000	.001550	.000050	0.	.....	
10,200	51,000	.001650	.000100	.....	.....	Elastic limit.
10,400	52,000	.001900	.000250	.....	.....	
10,600	53,000	.002300	.000400	.....	.....	
10,800	54,000	.002900	.000600	.....	.....	
11,000	55,000	.003700	.000800	.001850	.001850	
11,200	56,000	.005150	.001450	.....	.....	
11,400	57,000	.005850	.000700	.....	.....	
11,600	58,000	.007050	.001200	.....	.....	
11,800	59,000	.008250	.001200	.....	.....	
12,000	60,000	.009450	.001200	.007200	.005350	
12,400	62,000	.010850	.001400	.....	.....	
12,800	64,000	.013100	.002250	.....	.....	
13,200	66,000	.015250	.002150	.....	.....	
13,600	68,000	.017700	.002450	.....	.....	
14,000	70,000	.020100	.002400	.....	.....	
14,400	72,000	.022450	.002350	.....	.....	
14,800	74,000	.025500	.003050	.....	.....	
15,200	76,000	.028350	.002850	.....	.....	
15,600	78,000	.031600	.003250	.....	.....	
16,000	80,000	.035500	.003900	.....	.....	
16,400	82,000	.040000	.004500	.....	.....	
16,800	84,000	.045050	.005050	.....	.....	
17,200	86,000	.051750	.006700	.....	.....	
17,600	88,000	.060000	.008250	.....	.....	
18,000	90,000	.072250	.012250	.....	.....	
18,400	92,000	.1000	.027750	.....	.....	
18,480	92,400	.1350	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	92,400
Elastic limit per square inch of original section	do....	51,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		".55 from neck
Character of broken surface		silky, traces of granulation
Elongation of inch sections		".33*, ".17

No. 570.

Marks, $\frac{33\ T_{11}}{B\ T_3}$
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000850	.000100	0.	.....	
17,500	35,000	.001000	.000150	0.	.....	
20,000	40,000	.001150	.000150	0.	.....	
22,500	45,000	.001350	.000200	0.	.....	
24,000	48,000	.001400	.000050	.....	.....	
24,500	49,000	.001450	.000050	.....	.....	
25,000	50,000	.001450	0.	.000100	.000100	Elastic limit.
25,500	51,000	.002000	.000550	.....	.....	
26,000	52,000	.002800	.000800	.....	.....	
26,500	53,000	.004050	.001250	.....	.....	
27,000	54,000	.005250	.001200	.....	.....	
27,500	55,000	.006350	.001100	.004400	.004300	
48,300	96,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds..	96,600
Manner of failure		triple flexure

No. 1665.

Marks, $\frac{32\ T_1}{M\ T_1}$.
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001500	.000150	.000050	.000050	
9,200	46,000	.001500	0.	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	
10,000	50,000	.001650	0.	.000050	0.	Elastic limit.
10,200	51,000	.001950	.000300	.....	.....	
10,400	52,000	.002250	.000300	.....	.....	
10,600	53,000	.002750	.000500	.....	.....	
10,800	54,000	.003400	.000650	.....	.....	
11,000	55,000	.004150	.000750	.002200	.002150	
12,200	56,000	.004900	.000750	.....	.....	
11,400	57,000	.006100	.001200	.....	.....	
11,600	58,000	.007200	.001100	.....	.....	
11,800	59,000	.008200	.001000	.....	.....	
12,000	60,000	.009250	.001050	.007050	.004850	
12,400	62,000	.011100	.001850	.....	.....	
12,800	64,000	.013100	.002000	.....	.....	
13,200	66,000	.015550	.002450	.....	.....	
13,600	68,000	.017700	.002150	.....	.....	
14,000	70,000	.020000	.002300	.....	.....	
14,400	72,000	.022450	.002450	.....	.....	
14,800	74,000	.025400	.002950	.....	.....	
15,200	76,000	.027900	.002500	.....	.....	
15,600	78,000	.031250	.003350	.....	.....	
16,000	80,000	.034600	.003350	.....	.....	
16,400	82,000	.039250	.004650	.....	.....	
16,800	84,000	.044850	.005600	.....	.....	
17,200	86,000	.050600	.005750	.....	.....	
17,600	88,000	.058900	.008300	.....	.....	
18,000	90,000	.072000	.013100	.....	.....	
18,400	92,000	.095000	.023000	.....	.....	
18,490	92,450	.1200	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	92,450
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		½ inch from neck
Character of broken surface		silky; traces of granulation
Elongation of inch sections		″.30, ″.11

No. 1666.

Marks, $\frac{32}{M}\ T_{11}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001400	.000150	.000050	.000050	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001550	.000100	.....	.....	
9,600	48,000	.001550	0.	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	
10,000	50,000	.001650	.000050	.000100	.000050	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001850	.000100	.....	.....	
11,000	55,000	.001900	.000050	.000150	.000050	Elastic limit.
11,200	56,000	.002600	.000700	.....	.....	
11,400	57,000	.003900	.001300	.....	.....	
11,600	58,000	.005000	.001100	.....	.....	
11,800	59,000	.006450	.001450	.....	.....	
12,000	60,000	.007850	.001400	.005700	.005650	
12,400	62,000	.009700	.001850	.....	.....	
12,800	64,000	.011850	.002150	.....	.....	
13,200	66,000	.014600	.002750	.....	.....	
13,600	68,000	.016750	.002150	.....	.....	
14,000	70,000	.019100	.002350	.....	.....	
14,400	72,000	.022050	.002950	.....	.....	
14,800	74,000	.024750	.002700	.....	.....	
15,200	76,000	.027400	.002650	.....	.....	
15,600	78,000	.030650	.003250	.....	.....	
16,000	80,000	.034600	.003950	.....	.....	
16,400	82,000	.039300	.004700	.....	.....	
16,800	84,000	.044150	.004850	.....	.....	
17,200	86,000	.050600	.006450	.....	.....	
17,600	88,000	.060000	.009400	.....	.....	
18,000	90,000	.073750	.013750	.....	.....	
18,390	91,950	.1200	.046250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,950
Elastic limit per square inch of original section	do ...	55,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001900
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.45 from neck
Character of broken surface		silky
Elongation of inch sections		″.32*, ″.11

No. 1163.

Marks, $^{32}_{B}\,T_{13}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000350	.000250	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001250	.000100	0.	.....	
9,000	45,000	.001400	.000150	0.	.....	
10,000	50,000	.001550	.000150	0.	.....	
10,800	54,000	.001650	.000100	.....	.....	Elastic limit.
11,000	55,000	.003600	.001950	.001850	.001850	
11,200	56,000	.005300	.001700	.....	.....	
11,400	57,000	.005650	.000350	.....	.....	
11,600	58,000	.007700	.002050	.....	.....	
11,800	59,000	.009000	.001300	.....	.....	
12,000	60,000	.010150	.001150	.007950	.006100	
12,400	62,000	.011900	.001750	.....	.....	
12,800	64,000	.013450	.001550	.....	.....	
13,200	66,000	.015850	.001400	.....	.....	
13,600	68,000	.019000	.003150	.....	.....	
14,000	70,000	.021000	.002000	.....	.....	
14,400	72,000	.023500	.002500	.....	.....	
14,800	74,000	.026250	.002750	.....	.....	
15,200	76,000	.029500	.003250	.....	.....	
15,600	78,000	.033100	.003600	.....	.....	
16,000	80,000	.037000	.003900	.....	.....	
16,400	82,000	.041550	.004550	.....	.....	
16,800	84,000	.046650	.005100	.....	.....	
17,200	86,000	.053500	.006850	.....	.....	
17,600	88,000	.067000	.013500	.....	.....	
18,000	90,000	.080600	.013600	.....	.....	
18,400	92,000	.1100	.0296	.....	.....	
18,450	92,250	.....	.....	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8654
Tensile strength per square inch of original section	pounds	92,250
Elastic limit per square inch of original section	do	54,000
Elongation per inch after rupture	inch	0.2050
Elongation per inch under strain at elastic limit	do	.001650
Reduction in diameter at point of rupture	do	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		″.40 from neck
Character of broken surface		silky
Elongation of inch sections		″.30*, ″.11

No. 1164.

Marks, $\frac{32\ T_{12}}{B\ T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000500	.000200	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001100	.000100	0.	.....	
9,000	45,000	.001350	.000250	0.	.....	
10,000	50,000	.001450	.000100	0.	.....	
10,200	51,000	.001450	0.	.....	.....	
10,400	52,000	.001500	.000050	.....	.....	
10,600	53,000	.001500	0.	.....	.....	
10,800	54,000	.001550	.000050	.....	.....	Elastic limit.
11,000	55,000	.008800	.007250	.006700	.006700	
11,200	56,000	.009600	.000800	.....	.....	
11,400	57,000	.010050	.000450	.....	.....	
11,600	58,000	.010500	.000450	.....	.....	
11,800	59,000	.011600	.001100	.....	.....	
12,000	60,000	.012700	.001100	.010350	.003650	Rested one hour under initial load.
12,400	62,000	.015400	.002700	.....	.....	
12,800	64,000	.017000	.001600	.....	.....	
13,200	66,000	.019500	.002500	.....	.....	
13,600	68,000	.022050	.002550	.....	.....	
14,000	70,000	.025050	.003000	.....	.....	
14,400	72,000	.028000	.002950	.....	.....	
14,800	74,000	.031200	.003200	.....	.....	
15,200	76,000	.035300	.004100	.....	.....	
15,600	78,000	.039800	.004500	.....	.....	
16,000	80,000	.045600	.005800	.....	.....	
16,400	82,000	.052600	.007000	.....	.....	
16,800	84,000	.060500	.007900	.....	.....	
17,200	86,000	.076100	.005600	.....	.....	
17,600	88,000	.0950	.0189	.....	.....	
17,810	89,050	.1400	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,050
Elastic limit per square inch of original section	do....	54,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do....	.001550
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		″.60 from neck
Character of broken surface		silky
Elongation of inch sections		″.32*, ″.13

No. 562.

Marks, $\frac{32\ T_1^2}{B\ T_2}$
Length, 3″.98.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001000	.000150	0.	.....	
20,000	40,000	.001200	.000200	0.	.....	
22,500	45,000	.001350	.000150	0.	.....	
25,000	50,000	.001500	.000150	0.	.....	
25,500	51,000	.001500	0.	.....	.....	
26,000	52,000	.001550	.000050	.....	.....	
26,500	53,000	.001600	.000050	.....	.....	
27,000	54,000	.001650	.000050	.....	.....	
27,500	55,000	.001700	.000050	0.	.....	
28,000	56,000	.001750	.000050	.....	.....	
28,500	57,000	.001800	.000050	.....	.....	Elastic limit.
29,000	58,000	.009400	.007600	.....	.....	
29,500	59,000	.010650	.001250	.....	.....	
30,000	60,000	.011500	.000850	.009200	.009200	
47,860	95,720	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	57,000
Compression per inch under stress at elastic limit	inch..	0.001800
Ultimate strength per square inch of original section	pounds..	95,720
Manner of failure		triple flexure

No. 1165.

Marks, $\frac{32\ T_{12}}{M\ T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001400	.000200	0.	.....	
10,000	50,000	.001600	.000200	.000050	.000050	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	Elastic limit.
10,600	53,000	.003700	.002000	.....	.....	
10,800	54,000	.005300	.001600	.....	.....	
11,000	55,000	.007000	.001700	.004850	.004800	
11,200	56,000	.007400	.000400	.....	.....	
11,400	57,000	.008150	.000750	.....	.....	
11,600	58,000	.008950	.000800	.....	.....	
11,800	59,000	.010150	.001200	.....	.....	
12,000	60,000	.010900	.000750	.008700	.003850	
12,400	62,000	.013450	.002550	.....	.....	
12,800	64,000	.015500	.002050	.....	.....	
13,200	66,000	.017750	.002250	.....	.....	
13,600	68,000	.020150	.002400	.....	.....	
14,000	70,000	.023050	.002900	.....	.....	
14,400	72,000	.026050	.003000	.....	.....	
14,800	74,000	.028500	.002450	.....	.....	
15,200	76,000	.032000	.003500	.....	.....	
15,600	78,000	.036150	.004150	.....	.....	
16,000	80,000	.040600	.004450	.....	.....	
16,400	82,000	.045150	.004550	.....	.....	
16,800	84,000	.052050	.006900	.....	.....	
17,200	86,000	.060300	.008250	.....	.....	
17,600	88,000	.072600	.012300	.....	.....	
18,000	90,000	.098500	.025900	.....	.....	
18,080	90,400	.1500	.0515	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8601
Tensile strength per square inch of original section	pounds..	90,400
Elastic limit per square inch of original section	do....	52,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		".55 from neck
Character of broken surface	silky, 90 per centum; granular, 10 per centum	
Elongation of inch sections		".32", ".13

No. 1166.

Marks, $\frac{32\ T_{12}}{M\ T_3}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	.000050	.000050	
9,000	45,000	.001400	.000150	.000050	0.	
10,000	50,000	.001550	.000150	.000050	0.	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	Elastic limit.
10,800	54,000	.005100	.003400	.....	.....	
11,000	55,000	.007300	.002200	.005250	.005200	
11,200	56,000	.007900	.000600	.....	.....	
11,400	57,000	.008750	.000850	.....	.....	
11,600	58,000	.009750	.001000	.....	.....	
11,800	59,000	.010700	.000950	.....	.....	
12,000	60,000	.011750	.001050	.009500	.004250	
12,400	62,000	.014150	.002400	.....	.....	
12,800	64,000	.016050	.001900	.....	.....	
13,200	66,000	.018600	.002550	.....	.....	
13,600	68,000	.021100	.002500	.....	.....	
14,000	70,000	.023750	.002650	.....	.....	
14,400	72,000	.026750	.003000	.....	.....	
14,800	74,000	.029700	.002950	.....	.....	
15,200	76,000	.033600	.003900	.....	.....	
15,600	78,000	.037800	.004200	.....	.....	
16,000	80,000	.042250	.004450	.....	.....	
16,400	82,000	.048350	.006100	.....	.....	
16,800	84,000	.056250	.007900	.....	.....	
17,200	86,000	.066000	.009750	.....	.....	
17,600	88,000	.083250	.017250	.....	.....	
17,880	89,400	.1175	.034250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,400
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		".55 from neck
Character of broken surface		silky
Elongation of inch sections		".28*, ".10

No. 1167.

Marks, $\frac{32\ T_{11}}{B\ T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000200	.000100	0.		
3,000	15,000	.000400	.000200	0.		
4,000	20,000	.000600	.000200	0.		
5,000	25,000	.000750	.000150	0.		
6,000	30,000	.000950	.000200	0.		
7,000	35,000	.001200	.000250	0.		
8,000	40,000	.001300	.000100	0.		
9,000	45,000	.001400	.000100	0.		
10,000	50,000	.001650	.000250	.000100	.000100	
10,200	51,000	.001650	0.			
10,400	52,000	.001700	.000050			
10,600	53,000	.001800	.000100			Elastic limit.
10,800	54,000	.003200	.001400			
11,000	55,000	.004500	.001300	.002500	.002400	
11,200	56,000	.005700	.001200			
11,400	57,000	.006350	.000650			
11,600	58,000	.007200	.000850			
11,800	59,000	.008250	.001050			
12,000	60,000	.009350	.001100	.007150	.004050	
12,400	62,000	.011200	.001850			
12,800	64,000	.013300	.002100			
13,200	66,000	.015600	.002300			
13,600	68,000	.017750	.002150			
14,000	70,000	.020100	.002350			
14,400	72,000	.022700	.002600			
14,800	74,000	.025100	.002400			
15,200	76,000	.028050	.002950			
15,600	78,000	.031750	.003700			
16,000	80,000	.035400	.003650			
16,400	82,000	.039550	.004150			
16,800	84,000	.044500	.004950			
17,200	86,000	.050600	.006100			
17,600	88,000	.058750	.008150			
18,000	90,000	.072000	.013250			
18,390	91,950	.1100	.0380			Tensile strength.

General summary.

Specific gravity		7.8634
Tensile strength per square inch of original section	pounds..	91,950
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.1950
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".35 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".30*, ".09

No. 1168.

Marks, $\frac{32\ T_{12}}{B\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000600	.000100	0.	.....	
5,000	25,000	.000850	.000250	0.	.....	
6,000	30,000	.001050	.000200	.000050	.000050	
7,000	35,000	.001200	.000150	.000050	0.	
8,000	40,000	.001350	.000150	.000050	0.	
9,000	45,000	.001450	.000100	.000050	0.	
10,000	50,000	.001600	.000150	.000050	0.	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001750	.000100	.....	.....	
10,600	53,000	.001850	.000100	.....	.....	Elastic limit.
10,800	54,000	.002400	.000550	.....	.....	
11,000	55,000	.003650	.001250	.001800	.001750	
11,200	56,000	.005850	.002200	.....	.....	
11,400	57,000	.006200	.000350	.....	.....	
11,600	58,000	.007300	.001100	.....	.....	
11,800	59,000	.008550	.001250	.....	.....	
12,000	60,000	.009350	.000800	.007100	.005300	
12,400	62,000	.011350	.002000	.....	.....	
12,800	64,000	.014000	.002650	.....	.....	
13,200	66,000	.016000	.002000	.....	.....	
13,600	68,000	.018550	.002550	.....	.....	
14,000	70,000	.021000	.002450	.....	.....	
14,400	72,000	.023600	.002600	.....	.....	
14,800	74,000	.026550	.002950	.....	.....	
15,200	76,000	.029750	.003200	.....	.....	
15,600	78,000	.033500	.003750	.....	.....	
16,000	80,000	.037500	.004000	.....	.....	
16,400	82,000	.042500	.005000	.....	.....	
16,800	84,000	.048250	.005750	.....	.....	
17,200	86,000	.057500	.009250	.....	.....	
17,600	88,000	.066000	.008500	.....	.....	
18,000	90,000	.090500	.024500	.....	.....	
18,060	90,300	.1075	.0170	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	90,300
Elastic limit per square inch of original section	do	53,000
Elongation per inch after rupture	inch	0.1900
Elongation per inch under strain at elastic limit	do	.001850
Reduction in diameter at point of rupture	do	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".25 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".26*, ".12

No. 563.

Marks, $\frac{82\ T_{12}}{B\ T_{2}}$
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000650	.000250	0.	.....	
12,500	25,000	.000800	.000150	0.	.....	
15,000	30,000	.000950	.000150	0.	.....	
17,500	35,000	.001100	.000150	0.	.....	
20,000	40,000	.001250	.000150	0.	.....	
22,500	45,000	.000350	.000100	0.	.....	
25,000	50,000	.001550	.000200	0.	.....	
25,500	51,000	.001550	0.	.....	.....	
26,000	52,000	.001600	.000050	.....	.....	
26,500	53,000	.001650	.000050	.....	.....	
27,000	54,000	.001800	.000150	.....	.....	
27,500	55,000	.001900	.000100	.000200	.000200	
28,000	56,000	.002000	.000100	.....	.....	
28,500	57,000	.002050	.000050	.....	.....	
29,000	58,000	.002150	.000100	.....	.....	Elastic limit.
29,500	59,000	.002300	.000150	.....	.....	
30,000	60,000	.002700	.000400	.000800	.000600	
30,500	61,000	.003150	.000450	.....	.....	
31,000	62,000	.003750	.000600	.....	.....	
31,500	63,000	.004400	.000650	.....	.....	
32,000	64,000	.005500	.001100	.....	.....	
32,500	65,000	.006300	.000800	.004250	.003450	
48,090	96,180	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	58,000
Compression per inch under stress at elastic limit	inch..	0.002150
Ultimate strength per square inch of original section	pounds..	96,180
Manner of failure		triple flexure

No. 1169.

Marks, $\frac{32\ T_{13}}{M\ T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,600	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001100	.000100	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001400	.000100	0.	.....	
10,000	50,000	.001600	.000200	0.	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001800	.000100	.....	.....	Elastic limit.
10,800	54,000	.002050	.000250	.....	.....	
11,000	55,000	.002350	.000300	.000600	.000600	
11,200	56,000	.002900	.000550	.....	.....	
11,400	57,000	.003150	.000250	.....	.....	
11,600	58,000	.003650	.000500	.....	.....	
11,880	59,000	.004650	.001000	.....	.....	
12,000	60,000	.006350	.000700	.004100	.003500	
12,400	62,000	.008500	.002150	.....	.....	
12,800	64,000	.010450	.001950	.....	.....	
13,200	66,000	.012500	.002050	.....	.....	
13,600	68,000	.014500	.002000	.....	.....	
14,000	70,000	.016750	.002250	.....	.....	
14,400	72,000	.018750	.002000	.....	.....	
14,800	74,000	.021200	.002450	.....	.....	
15,200	76,000	.023400	.002200	.....	.....	
15,600	78,000	.026900	.003500	.....	.....	
16,000	80,000	.029500	.002600	.....	.....	
16,400	82,000	.032900	.003400	.....	.....	
16,800	84,000	.036400	.003500	.....	.....	
17,200	86,000	.041000	.004600	.....	.....	
17,600	88,000	.045750	.004750	.....	.....	
18,000	90,000	.052050	.006300	.....	.....	
18,400	92,000	.061500	.009450	.....	.....	
18,800	94,000	.074500	.013000	.....	.....	
19,110	95,550	.0950	.0205	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8590
Tensile strength per square inch of original section	pounds..	95,550
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		½ inch from neck
Character of broken surface	granular, 50 per centum; silky, 50 per centum	
Elongation of inch sections		″.29* ″.08

No. 1170.

Marks, $\frac{32\ T_{13}}{M\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000350	.000250	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000750	.000100	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
10,000	50,000	.001550	.000100	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001650	0.	.....	.....	
10,800	54,000	.001700	.000050	.....	.....	
11,000	55,000	.001750	.000050	0.	.....	
11,200	56,000	.001800	.000050	.....	.....	
11,400	57,000	.001850	.000050	.....	.....	
11,600	58,000	.001900	.000050	.....	.....	
11,800	59,000	.002000	.000100	.....	.....	Elastic limit.
12,000	60,000	.002550	.000550	.000600	.000600	
12,200	61,000	.003150	.000600	.....	.....	
12,400	62,000	.004350	.001200	.....	.....	
12,600	63,000	.005200	.000850	.....	.....	
12,800	64,000	.006500	.001300	.....	.....	
13,200	66,000	.008600	.002100	.....	.....	
13,600	68,000	.011100	.002500	.....	.....	
14,000	70,000	.013000	.001900	.....	.....	
14,400	72,000	.015000	.002000	.....	.....	
14,800	74,000	.016900	.001900	.....	.....	
15,200	76,000	.019500	.002600	.....	.....	
15,600	78,000	.021600	.002100	.....	.....	
16,000	80,000	.024300	.002700	.....	.....	
16,400	82,000	.027400	.003100	.....	.....	
16,800	84,000	.030300	.002900	.....	.....	
17,200	86,000	.033500	.003200	.....	.....	
17,600	88,000	.037500	.004000	.....	.....	
18,000	90,000	.041850	.004350	.....	.....	
18,400	92,000	.047500	.005650	.....	.....	
18,800	94,000	.054600	.007100	.....	.....	
19,200	96,000	.066500	.011900	.....	.....	
19,600	98,000	.086000	.019500	.....	.....	
19,680	98,400	.100500	.014500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,400
Elastic limit per square inch of original section	do....	59,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do ..	.002000
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from neck
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		".27*, ".07

[Additional specimens.]

No. 2244.

Marks, $\frac{32\ T_{12}}{B\ T_4}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000350	.000150	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001250	.000200	0.	.....	
8,000	40,000	.001450	.000200	0.	.....	
9,000	45,000	.001600	.000150	.....	.....	
9,600	48,000	.001700	.000100	.....	.....	
9,800	49,000	.001750	.000050	.....	.....	Elastic limit.
10,000	50,000	.004800	.003050	.....	.....	
10,200	51,000	.006600	.001800	.....	.....	
10,400	52,000	.007500	.000900	.....	.....	
10,600	53,000	.008700	.001200	.....	.....	
10,800	54,000	.009700	.001000	.....	.....	
11,000	55,000	.010650	.000950	.....	.....	
11,200	56,000	.011900	.001250	.....	.....	
11,400	57,000	.012750	.000850	.....	.....	
11,600	58,000	.013900	.001150	.....	.....	
11,800	59,000	.015000	.001100	.....	.....	
12,000	60,000	.016000	.001000	.....	.....	
12,400	62,000	.018750	.002750	.....	.....	
12,800	64,000	.021250	.002500	.....	.....	
13,200	66,000	.024000	.002750	.....	.....	
13,600	68,000	.027000	.003000	.....	.....	
14,000	70,000	.030600	.003600	.....	.....	
14,400	72,000	.034500	.003900	.....	.....	
14,800	74,000	.038250	.003750	.....	.....	
15,200	76,000	.043000	.005250	.....	.....	
15,600	78,000	.051000	.007500	.....	.....	
16,000	80,000	.058500	.007500	.....	.....	
16,400	82,000	.0700	.0115	.....	.....	
16,800	84,000	.0950	.0250	.....	.....	
16,970	84,850	.1250	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,850
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.2200
Elongation per inch under strain at elastic limit	do....	.001750
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		⅜ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.34*, ″.10

No. 2245.

Marks, $\frac{22\ T_{13}}{B\ T_5}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001500	.000150	0.	.....	
10,000	50,000	.001700	.000200	0.	.....	Elastic limit.
10,200	51,000	.003500	.001800	.....	.....	
10,400	52,000	.005250	.001750	.....	.....	
10,600	53,000	.007150	.001900	.....	.....	
10,800	54,000	.008500	.001350	.....	.....	
11,000	55,000	.009750	.001250	.....	.....	
11,200	56,000	.010500	.000750	.....	.....	
11,400	57,000	.011650	.001150	.....	.....	
11,600	58,000	.012100	.000450	.....	.....	
11,800	59,000	.013500	.001400	.....	.....	
12,000	60,000	.015000	.001500	.....	.....	
12,400	62,000	.017250	.002250	.....	.....	
12,800	64,000	.019500	.002250	.....	.....	
13,200	66,000	.022250	.002750	.....	.....	
13,600	68,000	.025150	.002900	.....	.....	
14,000	70,000	.028000	.002850	.....	.....	
14,400	72,000	.031750	.003750	.....	.....	
14,800	74,000	.035250	.003500	.....	.....	
15,200	76,000	.040000	.004750	.....	.....	
15,600	78,000	.045250	.005250	.....	.....	
16,000	80,000	.052100	.006850	.....	.....	
16,400	82,000	.061750	.009650	.....	.....	
16,800	84,000	.0750	.013250	.....	.....	
17,200	86,000	.1100	.0350	.....	.....	
17,240	86,200	.1400	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,200
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at joint of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		".10 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".30", ".13

No. 623.

Marks, $\frac{32\ T_{13}}{B\ T_8}$
Length, 3″.991.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000700	.000200	0.	.....	
12,500	25,000	.000850	.000150	0.	.....	
15,000	30,000	.001000	.000150	0.	.....	
17,500	35,000	.001200	.000200	0.	.....	
20,000	40,000	.001350	.000150	0.	.....	
20,500	41,000	.001400	.000050	.....	.....	
21,000	42,000	.001500	.000100	.....	.....	
21,500	43,000	.001500	0.	.....	.....	
22,000	44,000	.001500	0.	.....	.....	
22,500	45,000	.001500	0.	0.	.....	
23,000	46,000	.001550	.000050	.....	.....	
23,500	47,000	.001550	0.	.....	.....	
24,000	48,000	.001600	.000050	.....	.....	Elastic limit.
24,500	49,000	.001700	.000100	.....	.....	
25,000	50,000	.001800	.000100	.000250	.000250	
25,500	51,000	.006100	.004300	.....	.....	
26,000	52,000	.007950	.001850	.....	.....	
26,500	53,000	.009850	.001900	.....	.....	
27,000	54,000	.010800	.000950	.....	.....	
27,500	55,000	.011950	.001150	.010000	.009750	
46,100	92,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	48,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds..	92,200
Manner of failure		triple flexure

No. 2246.

Marks, $\frac{32}{M}$ T$_3$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
8,200	41,000	.001350	.000050	.....	.....	
8,400	42,000	.001400	.000050	.....	.....	
8,600	43,000	.001500	.000100	.....	.....	Elastic limit.
8,800	44,000	.008500	.007000	.....	.....	
9,000	45,000	.010000	.001500	.....	.....	
9,200	46,000	.010900	.000900	.....	.....	
9,400	47,000	.011650	.000750	.....	.....	
9,600	48,000	.012650	.001000	.....	.....	
9,800	49,000	.013150	.000500	.....	.....	
10,000	50,000	.014500	.001350	.....	.....	
10,200	51,000	.015650	.001150	.....	.....	
10,400	52,000	.016700	.001050	.....	.....	
10,600	53,000	.018100	.001400	.....	.....	
10,800	54,000	.019050	.000950	.....	.....	
11,000	55,000	.020590	.001500	.....	.....	
11,200	56,000	.021640	.001100	.....	.....	
11,400	57,000	.023500	.002050	.....	.....	
11,600	58,000	.025250	.001750	.....	.....	
11,800	59,000	.026500	.001250	.....	.....	
12,000	60,000	.027650	.001150	.....	.....	
12,400	62,000	.031100	.003450	.....	.....	
12,800	64,000	.035250	.004150	.....	.....	
13,200	66,000	.039750	.004500	.....	.....	
13,600	68,000	.044250	.004500	.....	.....	
14,000	70,000	.051500	.007250	.....	.....	
14,400	72,000	.058000	.006500	.....	.....	
14,800	74,000	.0650	.0070	.....	.....	
15,200	76,000	.0850	.0200	.....	.....	
15,600	78,000	.1050	.0200	.....	.....	
16,000	80,000	.1550	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,000
Elastic limit per square inch of original section	do....	43,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do....	.001500
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from neck
Character of broken surface		granular, 50 per centum; silky, 50 per centum
Elongation of inch sections		".33*, ".15

No. 2247.

Marks, $\frac{32\ T_{12}}{M\ T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
8,200	41,000	.001300	.000050	.....	.....	Elastic limit.
8,400	42,000	.004100	.002800	.....	.....	
8,600	43,000	.005350	.001250	.....	.....	
8,800	44,000	.009500	.004150	.....	.....	
9,000	45,000	.010400	.000900	.....	.....	
9,200	46,000	.010850	.000450	.....	.....	
9,400	47,000	.011700	.000850	.....	.....	
9,600	48,000	.012700	.001000	.....	.....	
9,800	49,000	.013750	.001050	.....	.....	
10,000	50,000	.015000	.001250	.....	.....	
10,200	51,000	.015850	.000850	.....	.....	
10,400	52,000	.016500	.000650	.....	.....	
10,600	53,000	.017500	.001000	.....	.....	
10,800	54,000	.019000	.001500	.....	.....	
11,000	55,000	.020150	.001150	.....	.....	
11,200	56,000	.021500	.001350	.....	.....	
11,400	57,000	.022750	.001250	.....	.....	
11,600	58,000	.024250	.001500	.....	.....	
11,800	59,000	.025650	.001400	.....	.....	
12,000	60,000	.027000	.001350	.....	.....	
12,400	62,000	.031100	.004100	.....	.....	
12,800	64,000	.034500	.003400	.....	.....	
13,200	66,000	.038750	.004250	.....	.....	
13,600	68,000	.045000	.006250	.....	.....	
14,000	70,000	.051000	.006000	.....	.....	
14,400	72,000	.057750	.006750	.....	.....	
14,800	74,000	.066500	.008750	.....	.....	
15,200	76,000	.0800	.0135	.....	.....	
15,600	78,000	.1100	.0300	.....	.....	
15,960	79,800	.1450	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,800
Elastic limit per square inch of original section	do....	41,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	001300
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		"¼ from neck
Character of broken surface	granular, 50 per centum; silky, 50 per centum	
Elongation of inch sections		".31*, ".12

No. 1667.

Marks, $\frac{32\ T_{14}}{B\ T_{1}}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	*Per square inch.*					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000750	.000250	0.	.....	
5,000	25,000	.000900	.000150	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001250	.000200	0.	.....	
8,000	40,000	.001400	.000150	0.	.....	
9,000	45,000	.001550	.000150	.000050	.000050	
9,200	46,000	.001550	0.	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	
9,600	48,000	.001650	.000050	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	
10,000	50,000	.001750	.000050	.000100	.000050	
10,200	51,000	.001750	0.	.....	.....	
10,400	52,000	.001850	.000100	.....	.....	
10,600	53,000	.001850	0.	.....	.....	
10,800	54,000	.001900	.000050	.....	.....	
11,000	55,000	.001950	.000050	.000100	0.	
11,200	56,000	.002000	.000050	.....	.....	
11,400	57,000	.002100	.000050	.....	.....	Elastic limit.
11,600	58,000	.002550	.000400	.....	.....	
11,800	59,000	.003350	.000800	.....	.....	
12,000	60,000	.004250	.000900	.002250	.002150	
12,400	62,000	.006000	.001750	.....	.....	
12,800	64,000	.008850	.002850	.....	.....	
13,200	66,000	.011200	.002350	.....	.....	
13,600	68,000	.013200	.002000	.....	.....	
14,000	70,000	.015350	.002150	.....	.....	
14,400	72,000	.017550	.002200	.....	.....	
14,800	74,000	.020000	.002450	.....	.....	
15,200	76,000	.022150	.002150	.....	.....	
15,600	78,000	.025050	.002900	.....	.....	
16,000	80,000	.028250	.003200	.....	.....	
16,400	82,000	.031750	.003500	.....	.....	
16,800	84,000	.035000	.003250	.....	.....	
17,200	86,000	.039250	.004250	.....	.....	
17,600	88,000	.043500	.004250	.....	.....	
18,000	90,000	.049350	.005850	.....	.....	
18,400	92,000	.056250	.006900	.....	.....	
18,800	94,000	.066200	.009950	.....	.....	
19,200	96,000	.0900	.0238	.....	.....	
19,240	96,200	.1050	.0150	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8569
Tensile strength per square inch of original section	pounds..	96,200
Elastic limit per square inch of original section	do....	57,000
Elongation per inch after rupture	inch..	0.1650
Elongation per inch under strain at elastic limit	do....	.002150
Reduction in diameter at point of rupture	do....	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		"$\frac{1}{4}$ from neck
Character of broken surface	granular, 60 per centum; silky center, 40 per centum	
Elongation of inch sections		".25* ."08

No. 1668.

Marks, $\frac{32\,T_{14}}{B\,T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000500	.000250	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000750	.000100	0.	.....	
6,000	30,000	.000850	.000100	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001350	.000200	0.	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001450	0.	.....	.....	
9,800	49,000	.001500	.000050	.....	.....	
10,000	50,000	.001550	.000050	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001650	0.	.....	.....	
10,800	54,000	.001700	.000050	.....	.....	
11,000	55,000	.001750	.000050	0.	.....	
11,200	56,000	.001800	.000050	.....	.....	
11,400	57,000	.001850	.000050	.....	.....	
11,600	58,000	.001850	0.	.....	.....	Elastic limit.
11,800	59,000	.001950	.000100	.....	.....	
12,000	60,000	.002050	.000100	.000200	.000200	
12,200	61,000	.002600	.000550	.....	.....	
12,400	62,000	.002850	.000250	.....	.....	
12,600	63,000	.003300	.000450	.....	.....	
12,800	64,000	.004000	.000700	.....	.....	
13,200	66,000	.006000	.001000	.....	.....	
13,600	68,000	.008500	.002500	.....	.....	
14,000	70,000	.011050	.002550	.....	.....	
14,400	72,000	.013000	.001950	.....	.....	
14,800	74,000	.014900	.001900	.....	.....	
15,200	76,000	.017450	.002550	.....	.....	
15,600	78,000	.019750	.002300	.....	.....	
16,000	80,000	.022100	.002350	.....	.....	
16,400	82,000	.025600	.003500	.....	.....	
16,800	84,000	.028250	.002650	.....	.....	
17,200	86,000	.031250	.003000	.....	.....	
17,600	88,000	.034250	.003000	.....	.....	
18,000	90,000	.038000	.003750	.....	.....	
18,400	92,000	.042300	.004300	.....	.....	
18,800	94,000	.047600	.005300	.....	.....	
19,200	96,000	.055600	.008000	.....	.....	
19,600	98,000	.0650	.0094	.....	.....	
20,000	100,000	.0900	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,000
Elastic limit per square inch of original section	do....	58,000
Elongation per inch after rupture	inch..	0.1500
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		".35 from neck
Character of broken surface		granular at circumference; silky center
Elongation of inch sections		".22*, ".08

No. 571.

Marks, $\frac{32\ T_{14}}{B\ T_3}$
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000450	.000200	0.	.....	
10,000	20,000	.000550	.000100	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001050	.000150	0.	.....	
20,000	40,000	.001200	.000150	0.	.....	
22,500	45,000	.001350	.000150	0.	.....	
25,000	50,000	.001550	.000200	0.	.....	
25,500	51,000	.001550	0.	.....	.....	
26,000	52,000	.001550	0.	.....	.....	
26,500	53,000	.001600	.000050	.....	.....	
27,000	54,000	.001650	.000050	.....	.....	
27,500	55,000	.001700	.000050	0.	.....	
28,000	56,000	.001700	0.	.....	.....	Elastic limit.
28,500	57,000	.001650	—.000050	.....	.....	
29,000	58,000	.001450	—.000200	.....	.....	
29,500	59,000	.001100	—.000350	.....	.....	
30,000	60,000	.000900	—.000200	—.000100	—.000100	
50,980	101,960	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	56.000
Compression per inch under stress at elastic limit	inch..	0.001700
Ultimate strength per square inch of original section	pounds..	101,960
Manner of failure		triple flexure

No. 1669.

Marks, $\frac{32\ T_{14}}{M\ T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001400	.000150	0.	.....	
9,200	46,000	.001400	0.	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001450	0.	.....	.....	
9,800	49,000	.001500	.000050	.....	.....	
10,000	50,000	.001550	.000050	0.	.....	
10,200	51,000	.001550	0.	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001700	.000050	.....	.....	
11,000	55,000	.001700	0.	0.	.....	Elastic limit.
11,200	56,000	.001850	.000150	.....	.....	
11,400	57,000	.002500	.000650	.....	.....	
11,600	58,000	.003500	.001000	.....	.....	
11,800	59,000	.004800	.001300	.....	.....	
12,000	60,000	.006650	.001850	.004400	.004400	
12,400	62,000	.008600	.001950	.....	.....	
12,800	64,000	.011250	.002650	.....	.....	
13,200	66,000	.014150	.002900	.....	.....	
13,600	68,000	.016250	.002100	.....	.....	
14,000	70,000	.019000	.002750	.....	.....	
14,400	72,000	.021750	.002750	.....	.....	
14,800	74,000	.025000	.003250	.....	.....	
15,200	76,000	.028000	.003000	.....	.....	
15,600	78,000	.031250	.003250	.....	.....	
16,000	80,000	.035600	.004350	.....	.....	
16,400	82,000	.040000	.004400	.....	.....	
16,800	84,000	.045500	.005500	.....	.....	
17,200	86,000	.053750	.008250	.....	.....	
17,600	88,000	.065000	.011250	.....	.....	
18,000	90,000	.084500	.019500	.....	.....	
18,080	90,400	.1100	.0255	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,400
Elastic limit per square inch of original section	do ...	55,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		".70 from neck; oblique
Character of broken surface		silky
Elongation of inch sections		".29", ".09

No. 1670.

Marks, $\frac{32\ T_1{}^4}{M\ T_2}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.001000	.000250	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
10,000	50,000	.001650	.000200	.000050	.000050	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	Elastic limit.
11,000	55,000	.002150	.000350	.000400	.000350	
11,200	56,000	.002750	.000600	.....	.....	
11,400	57,000	.003750	.001000	.....	.....	
11,600	58,000	.005100	.001350	.....	.....	
11,800	59,000	.006700	.001600	.....	.....	
12,000	60,000	.007750	.001050	.005550	.005150	
12,400	62,000	.009700	.001950	.....	.....	
12,800	64,000	.012050	.002350	.....	.....	
13,200	66,000	.014550	.002500	.....	.....	
13,600	68,000	.016750	.002200	.....	.....	
14,000	70,000	.019250	.002500	.....	.....	
14,400	72,000	.022050	.002800	.....	.....	
14,800	74,000	.024600	.002550	.....	.....	
15,200	76,000	.027850	.003250	.....	.....	
15,600	78,000	.031050	.003200	.....	.....	
16,000	80,000	.034700	.003650	.....	.....	
16,400	82,000	.038900	.004200	.....	.....	
16,800	84,000	.044550	.005650	.....	.....	
17,200	86,000	.050000	.005450	.....	.....	
17,600	88,000	.059500	.009500	.....	.....	
18,000	90,000	.072500	.013000	.....	.....	
18,360	91,800	.1100	.0375	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,800
Elastic limit per square inch of original section	do....	54,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.134
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".55 from neck
Character of broken surface		silky; trace of granulation
Elongation of inch sections		".31", ".09

[Additional specimens.]

No. 2248.

Marks, $\frac{32\ T_{16}}{B\ T_4}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001600	.000100	.....	.....	Elastic limit.
9,600	48,000	.001800	.000200	.....	.....	
9,800	49,000	.002500	.000700	.....	.....	
10,000	50,000	.003400	.000900	.....	.....	
10,200	51,000	.005500	.002100	.....	.....	
10,400	52,000	.006450	.000950	.....	.....	
10,600	53,000	.007500	.001050	.....	.....	
10,800	54,000	.008400	.000900	.....	.....	
11,000	55,000	.009500	.001100	.....	.....	
11,200	56,000	.010850	.001350	.....	.....	
11,400	57,000	.011550	.000700	.....	.....	
11,600	58,000	.012450	.000900	.....	.....	
11,800	59,000	.013500	.001050	.....	.....	
12,000	60,000	.014900	.001400	.....	.....	
12,400	62,000	.017250	.002350	.....	.....	
12,800	64,000	.019900	.002650	.....	.....	
13,200	66,000	.022450	.002550	.....	.....	
13,600	68,000	.024550	.002100	.....	.....	
14,000	70,000	.027500	.002950	.....	.....	
14,400	72,000	.031000	.003500	.....	.....	
14,800	74,000	.034750	.003750	.....	.....	
15,200	76,000	.038500	.003750	.....	.....	
15,600	78,000	.044500	.006000	.....	.....	
16,000	80,000	.051250	.006750	.....	.....	
16,400	82,000	.059500	.008250	.....	.....	
16,800	84,000	.0700	.0105	.....	.....	
17,200	86,000	.0950	.0250	.....	.....	
17,370	86,850	.1250	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,850
Elastic limit per square inch of original section	do....	47,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.001600
Reduction in diameter at point of rupture	do....	.105
Reduction in area after rupture, per centum of original section	do....	37.1
Position of rupture		″½ from neck
Character of broken surface		granular; dull center
Elongation of inch sections		″.29,* ″.11

No. 2249.

Marks, $\frac{32\ T_{14}}{B\ T_5}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000300	.000150	0.		
3,000	15,000	.000500	.000200	0.		
4,000	20,000	.000700	.000200	0.		
5,000	25,000	.000900	.000200	0.		
6,000	30,000	.001100	.000200	0.		
7,000	35,000	.001250	.000150	0.		
8,000	40,000	.001400	.000150	0.		
9,000	45,000	.001550	.000150			
9,200	46,000	.001600	.000050			
9,400	47,000	.001650	.000050			
9,600	48,000	.001750	.000100			Elastic limit.
9,800	49,000	.002350	.000600			
10,000	50,000	.003500	.001150			
10,200	51,000	.004650	.001150			
10,400	52,000	.005650	.001000			
10,600	53,000	.006600	.000950			
10,850	54,000	.007650	.001050			
11,000	55,000	.008500	.000850			
11,200	56,000	.009550	.001050			
11,400	57,000	.010350	.000800			
11,600	58,000	.011600	.001250			
11,800	59,000	.012750	.001150			
12,000	60,000	.013750	.001000			
12,400	62,000	.015900	.002150			
12,800	64,000	.017800	.001900			
13,200	66,000	.020000	.002200			
13,600	68,000	.023000	.003000			
14,000	70,000	.025500	.002500			
14,400	72,000	.029000	.003500			
14,800	74,000	.032250	.003250			
15,200	76,000	.035750	.003500			
15,600	78,000	.040000	.004250			
16,000	80,000	.045100	.005100			
16,400	82,000	.052000	.006900			
16,900	84,000	.062100	.010100			
17,200	86,000	.076000	.013900			
17,600	88,000	.1050	.0290			
17,650	88,250	.1300	.0250			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,
Elastic limit per square inch of original section	do....	48,
Elongation per inch after rupture	inch..	0.1
Elongation per inch under strain at elastic limit	do....	.001
Reduction in diameter at point of rupture	do....	.1
Reduction in area after rupture, per centum of original section		3
Position of rupture		½ inch from ne
Character of broken surface		granular, 60 per centum; dull silky, 40 per centu
Elongation of inch sections		".26*, ".

No. 624.

Marks, $\frac{22\ T_{14}}{B\ T_8}$
Length, 3″.995.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000650	.000150	0.	.....	
12,500	25,000	.000800	.000150	0.	.....	
15,000	30,000	.000950	.000150	0.	.....	
17,500	35,000	.001100	.000150	0.	.....	
20,000	40,000	.001250	.000150	0.	.....	
20,500	41,000	.001300	.000050	.....	.....	
21,000	42,000	.001300	0.	.....	.....	
21,500	43,000	.001350	.000050	.....	.....	
22,000	44,000	.001400	.000050	.....	.....	
22,500	45,000	.001450	.000050	0.	.....	
23,000	46,000	.001500	.000050	.....	.....	
23,500	47,000	.001500	0.	.....	.....	Elastic limit.
24,000	48,000	.001750	.000250	.....	.....	
24,500	49,000	.004750	.003000	.....	.....	
25,000	50,000	.006300	.001550	.004550	.004550	
46,300	92,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	47,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds..	92,600
Manner of failure		triple flexure

No. 2251.

Marks, $\frac{22\ T_{14}}{M\ T}$,
Diameter, $''.505$.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000900	.000100	0.	.....	
7,000	35,000	.001100	.000200	.....	.....	
8,000	40,000	.001350	.000250	.....	.....	
9,000	45,000	.001500	.000150	.....	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	
9,600	48,000	.001650	.000050	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	Elastic limit.
10,000	50,000	.002350	.000650	.....	.....	
10,200	51,000	.002800	.000450	.....	.....	
10,400	52,000	.003350	.000550	.....	.....	
10,600	53,000	.005300	.001950	.....	.....	
10,800	54,000	.007750	.002450	.....	.....	
11,000	55,000	.009250	.001500	.....	.....	
11,200	56,000	.010500	.001250	.....	.....	
11,400	57,000	.011500	.001000	.....	.....	
11,600	58,000	.012750	.001250	.....	.....	
11,800	59,000	.014000	.001250	.....	.....	
12,000	60,000	.015250	.001250	.....	.....	
12,400	62,000	.017550	.002300	.....	.....	
12,800	64,000	.020000	.002450	.....	.....	
13,200	66,000	.024250	.004250	.....	.....	
13,600	68,000	.026200	.001950	.....	.....	
14,000	70,000	.029550	.003350	.....	.....	
14,400	72,000	.033500	.003950	.....	.....	
14,800	74,000	.037500	.004000	.....	.....	
15,200	76,000	.044500	.007000	.....	.....	
15,600	78,000	.050600	.006100	.....	.....	
16,000	80,000	.059250	.008650	.....	.....	
16,400	82,000	.071000	.011750	.....	.....	
16,880	84,000	.0950	.0240	.....	.....	
16,950	84,750	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,750
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		½-inch from neck
Character of broken surface		silky; trace of granulation
Elongation of inch sections		".30", ".12

No. 2250.

Marks, $\frac{82\ T_{14}}{M\ T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000400	.000200	0.	.....	
3,000	15,000	.000550	.000150	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001400	.000200	0.	.....	
9,000	45,000	.001550	.000150	0.	.....	
9,200	46,000	.001550	0.	.....	.....	
9,400	47,000	.001650	.000100	.....	.....	Elastic limit.
9,600	48,000	.002850	.001200	.....	.....	
9,800	49,000	.003500	.000650	.....	.....	
10,000	50,000	.004700	.001200	.....	.....	
10,200	51,000	.005200	.001500	.....	.....	
10,400	52,000	.006350	.001150	.....	.....	
10,600	53,000	.007000	.001550	.....	.....	
10,800	54,000	.009700	.001800	.....	.....	
11,000	55,000	.011000	.001300	.....	.....	
11,200	56,000	.012250	.001250	.....	.....	
11,400	57,000	.013550	.001300	.....	.....	
11,600	58,000	.015000	.001450	.....	.....	
11,800	59,000	.016000	.001000	.....	.....	
12,000	60,000	.017250	.001250	.....	.....	
12,400	62,000	.019800	.002550	.....	.....	
12,800	64,000	.022600	.002800	.....	.....	
13,200	66,000	.026150	.003550	.....	.....	
13,600	68,000	.029750	.003600	.....	.....	
14,000	70,000	.034000	.004250	.....	.....	
14,400	72,000	.039250	.005250	.....	.....	
14,800	74,000	.044000	.004750	.....	.....	
15,200	76,000	.051000	.007000	.....	.....	
15,600	78,000	.0600	.0090	.....	.....	
16,000	80,000	.0700	.0100	.....	.....	
16,400	82,000	.0950	.0250	.....	.....	
16,450	82,250	.1400	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,250
Elastic limit per square inch of original section	do....	47,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".34", ".09

No. 2230.

Marks, $\frac{32}{B}\ \frac{T_{15}}{T_4}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000550	.000300	0.	.....	
4,000	20,000	.000650	.000100	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
10,000	50,000	.001600	.000150	0.	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001800	.000100	.....	.....	Elastic limit.
10,800	54,000	.002450	.000650	.....	.....	
11,000	55,000	.004250	.001800	.....	.....	
11,200	56,000	.006650	.002400	.....	.....	
11,400	57,000	.008100	.001450	.....	.....	
11,600	58,000	.009350	.001250	.....	.....	
11,800	59,000	.010600	.001250	.....	.....	
12,000	60,000	.011800	.001200	.....	.....	
12,400	62,000	.014200	.002400	.....	.....	
12,800	64,000	.016800	.002600	.....	.....	
13,200	66,000	.020000	.003200	.....	.....	
13,600	68,000	.023200	.003200	.....	.....	
14,000	70,000	.026100	.002900	.....	.....	
14,400	72,000	.029500	.003400	.....	.....	
14,800	74,000	.033500	.004000	.....	.....	
15,200	76,000	.037800	.004300	.....	.....	
15,600	78,000	.043000	.005200	.....	.....	
16,000	80,000	.050000	.007000	.....	.....	
16,400	82,000	.059500	.009500	.....	.....	
16,800	84,000	.0700	.0105	.....	.....	
17,170	85,850	.1200	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	85,850
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.124
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".65 from neck
Character of broken surface		silky
Elongation of inch sections		".32*, ".10

No. 2231.

Marks, $\frac{82\ T_{18}}{B\ T_2}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
10,000	50,000	.001650	.000200	0.	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001700	0.	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	
11,000	55,000	.001800	0.	.....	.....	Elastic limit.
11,200	56,000	.002050	.000250	.....	.....	
11,400	57,000	.003000	.000950	.....	.....	
11,600	58,000	.003550	.000550	.....	.....	
11,800	59,000	.006500	.002950	.....	.....	
12,000	60,000	.007700	.001200	.....	.....	
12,400	62,000	.010850	.003150	.....	.....	
12,800	64,000	.012750	.001900	.....	.....	
13,200	66,000	.015250	.002500	.....	.....	
13,600	68,000	.018000	.002750	.....	.....	
14,000	70,000	.020600	.002600	.....	.....	
14,400	72,000	.023750	.003150	.....	.....	
14,800	74,000	.027000	.003250	.....	.....	
15,200	76,000	.030750	.003750	.....	.....	
15,600	78,000	.035000	.004250	.....	.....	
16,000	80,000	.040000	.005000	.....	.....	
16,400	82,000	.045250	.005250	.....	.....	
16,800	84,000	.053750	.008500	.....	.....	
17,200	86,000	.064000	.010250	.....	.....	
17,600	88,000	.0900	.0260	.....	.....	
17,780	88,900	.1100	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,900
Elastic limit per square inch of original section	do....	55,000
Elongation per inch after rupture	inch..	0.3400
Elongation per inch under strain at elastic limit	do ...	.001400
Reduction in diameter at point of rupture	do....	.134
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		⅜ inch from neck
Character of broken surface		silky
Elongation of inch sections		".33*, ".15

No. 620.

Marks, $\frac{32\ T_{18}}{B\ T_3}$
Length, 3″.995.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000200	.000200	0.	.....	
5,000	10,000	.000350	.000150	0.	.....	
7,500	15,000	.000500	.000150	0.	.....	
10,000	20,000	.000650	.000150	0.	.....	
12,500	25,000	.000800	.000150	0.	.....	
15,000	30,000	.001000	.000200	0.	.....	
17,500	35,000	.001200	.000200	0.	.....	
20,000	40,000	.001300	.000100	0.	.....	
22,500	45,000	.001450	.000150	0.	.....	
23,000	46,000	.001500	.000050	.....	.....	
23,500	47,000	.001500	0.	.....	.....	
24,000	48,000	.001500	0.	.....	.....	
24,500	49,000	.001550	.000050	.....	.....	
25,000	50,000	.001650	.000100	0.	.....	Elastic limit.
25,500	51,000	.001750	.000100	.....	.....	
26,000	52,000	.001750	0.	.....	.....	
26,500	53,000	.001500	.000250	.....	.....	
27,000	54,000	.001050	.000450	.....	.....	
27,500	55,000	.000800	.000250	−.001000	−.001000	
28,000	56,000	.001000	.000200	.....	.....	
28,500	57,000	.001750	.000750	.....	.....	
29,000	58,000	.003450	.001700	.....	.....	
29,500	59,000	.004250	.000800	.....	.....	
30,000	60,000	.005650	.001400	−.003500	.004500	
46,900	93,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001650
Ultimate strength per square inch of original section	pounds..	93,800
Manner of failure		triple flexure

No. 2232.

Marks, $\frac{32\ T.}{M\ T.}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000950	.000250	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
10,000	50,000	.001650	.000200	0.	.....	
10,200	51,000	.001700 .007850	.000050 .006150	.....	.....	Elastic limit.
10,400	52,000	.008750	.000900	.....	.....	
10,600	53,000	.009950	.001200	.....	.....	
10,800	54,000	.010500	.000550	.....	.....	
11,000	55,000	.011500	.001000	.....	.....	
11,200	56,000	.012700	.001200	.....	.....	
11,400	57,000	.013750	.001050	.....	.....	
11,600	58,000	.015350	.001600	.....	.....	
11,800	59,000	.016550	.001200	.....	.....	
12,000	60,000	.017750	.001200	.....	.....	
12,400	62,000	.020250	.002500	.....	.....	
12,800	64,000	.023250	.003000	.....	.....	
13,200	66,000	.026100	.002850	.....	.....	
13,600	68,000	.029500	.003400	.....	.....	
14,000	70,000	.033100	.003600	.....	.....	
14,400	72,000	.037500	.004400	.....	.....	
14,800	74,000	.042250	.004750	.....	.....	
15,200	76,000	.048500	.006250	.....	.....	
15,600	78,000	.056000	.007500	.....	.....	
16,000	80,000	.066000	.010000	.....	.....	
16,400	82,000	.0900	.0240	.....	.....	
16,800	84,000	.1500	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,000
Elastic limit per square inch of original section	do....	51,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.124
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		½ inch from neck
Character of broken surface		silky; traces of granulation
Elongation of inch sections		″.31*, ″.15

No. 2233.

Marks, $\frac{32\ T_{15}}{M\ T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000350	.000100	0.	.....	
4,000	20,000	.000550	.000200	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
9,200	46,000	.001450	0.	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001550	.000050	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	
10,000	50,000	.001650	.000050	.....	.....	Elastic limit.
10,200	51,000	.005600	.003950	.....	.....	
10,400	52,000	.009000	.003400	.....	.....	
10,600	53,000	.010350	.001350	.....	.....	
10,800	54,000	.011350	.001000	.....	.....	
11,000	55,000	.012200	.000850	.....	.....	
11,200	56,000	.013750	.001550	.....	.....	
11,400	57,000	.014750	.001000	.....	.....	
11,600	58,000	.015850	.001100	.....	.....	
11,800	59,000	.017100	.001250	.....	.....	
12,000	60,000	.018500	.001400	.....	.....	
12,400	62,000	.021250	.002750	.....	.....	
12,800	64,000	.024250	.003000	.....	.....	
13,200	66,000	.027550	.003300	.....	.....	
13,600	68,000	.031100	.003550	.....	.....	
14,000	70,000	.035600	.004500	.....	.....	
14,400	72,000	.040000	.004400	.....	.....	
14,800	74,000	.045600	.005600	.....	.....	
15,200	76,000	.052750	.007150	.....	.....	
15,600	78,000	.061000	.008250	.....	.....	
16,000	80,000	.0750	.0140	.....	.....	
16,400	82,000	.1050	.0300	.....	.....	
16,500	82,500	.1300	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,500
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		⅝ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.31*, ″.10

No. 2399.

Marks, $\frac{32\ T_{16}}{B\ T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000250	0.	.....	
7,000	35,000	.001150	.000150	.....	.....	
8,000	40,000	.001350	.000200	.....	.....	
9,000	45,000	.001550	.000200	.....	.....	
10,000	50,000	.001700	.000150	.....	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001850	.000100	.....	.....	Elastic limit.
10,600	53,000	.002100	.000250	.....	.....	
10,800	54,000	.002700	.000600	.....	.....	
11,000	55,000	.003550	.000850	.....	.....	
11,200	56,000	.004250	.000700	.....	.....	
11,400	57,000	.005650	.001400	.....	.....	
11,600	58,000	.007000	.001350	.....	.....	
11,800	59,000	.008050	.001050	.....	.....	
12,000	60,000	.009050	.001000	.....	.....	
12,400	62,000	.011250	.002200	.....	.....	
12,800	64,000	.013250	.002000	.....	.....	
13,200	66,000	.015900	.002650	.....	.....	
13,600	68,000	.018100	.002200	.....	.....	
14,000	70,000	.020600	.002500	.....	.....	
14,400	72,000	.023250	.002650	.....	.....	
14,800	74,000	.026050	.002800	.....	.....	
15,200	76,000	.029500	.003450	.....	.....	
15,600	78,000	.032500	.003000	.....	.....	
16,000	80,000	.036550	.004050	.....	.....	
16,400	82,000	.042000	.005450	.....	.....	
16,800	84,000	.047000	.005000	.....	.....	
17,200	86,000	.0550	.0080	.....	.....	
17,600	88,000	.0600	.0050	.....	.....	
17,880	89,400	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,400
Elastic limit per square inch of original section	do....	52,000
Elongation per inch after rupture	inch..	0.0700
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.025
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		".25 from neck
Character of broken surface		granular; flaky spot near circumference
Elongation of inch sections		".09+, ".05

No. 2400.

Marks, $\frac{32\ T_{16}}{B\ T_3}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	*Per square inch.*					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000450	.000100	0.	.....	
5,000	25,000	.000650	.000200	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001100	.000100	0.	.....	
9,000	45,000	.001300	.000200	.....	.....	
9,200	46,000	.001350	.000050	.....	.....	
9,400	47,000	.001400	.000050	.....	.....	
9,600	48,000	.001450	.000050	.....	.....	
9,800	49,000	.001550	.000100	.....	.....	Elastic limit.
10,000	50,000	.002050	.000500	.....	.....	
10,200	51,000	.002600	.000550	.....	.....	
10,400	52,000	.003000	.000400	.....	.....	
10,600	53,000	.004150	.001150	.....	.....	
10,800	54,000	.005600	.001450	.....	.....	
11,000	55,000	.007050	.001450	.....	.....	
11,200	56,000	.008100	.001050	.....	.....	
11,400	57,000	.009250	.001150	.....	.....	
11,600	58,000	.010150	.000900	.....	.....	
11,800	59,000	.011200	.001050	.....	.....	
12,000	60,000	.012250	.001050	.....	.....	
12,400	62,000	.014200	.001950	.....	.....	
12,800	64,000	.016250	.002050	.....	.....	
13,200	66,000	.019250	.003000	.....	.....	
13,600	68,000	.021750	.002500	.....	.....	
14,000	70,000	.024600	.002850	.....	.....	
14,400	72,000	.027850	.003250	.....	.....	
14,800	74,000	.031200	.003350	.....	.....	
15,200	76,000	.034750	.003550	.....	.....	
15,600	78,000	.039000	.004250	.....	.....	
16,000	80,000	.044500	.005500	.....	.....	
16,400	82,000	.052000	.007500	.....	.....	
16,750	83,750	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,750
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.0600
Elongation per inch under strain at elastic limit	do....	.001550
Reduction in diameter at point of rupture	do....	.025
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		".95 from neck
Character of broken surface		granular; contains line of flaky metal
Elongation of inch sections		".07*, ".05

No. 647.

Marks, $\frac{32\ T_{16}}{B\ T_3}$
Length, 4″.004.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000250	.000100	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001050	.000200	0.	.....	
20,000	40,000	.001200	.000150	0.	.....	
22,500	45,000	.001350	.000150	0.	.....	
24,000	48,000	.001450	.000100	.....	.....	
24,500	49,000	.001500	.000050	.....	.....	Elastic limit.
25,000	50,000	.002050	.000550	.....	.....	
25,500	51,000	.003050	.001000	.....	.....	
26,000	52,000	.004100	.001050	.....	.....	
26,500	53,000	.004850	.000750	.....	.....	
27,000	54,000	.006000	.001150	.....	.....	
27,500	55,000	.006800	.000800	.....	.....	
28,000	56,000	.008150	.001350	.....	.....	
46,500	93,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	49,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds..	93,000
Manner of failure		triple flexure

No. 2401.

Marks, $\frac{32}{M}\ \frac{T_{16}}{T}$.
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	.....	.....	
8,000	40,000	.001250	.000150	.....	.....	
9,000	45,000	.001450	.000200	.....	.....	
10,000	50,000	.001600	.000150	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	Elastic limit.
10,400	52,000	.003100	.001450	.....	.....	
10,600	53,000	.006350	.003250	.....	.....	
10,800	54,000	.007300	.000950	.....	.....	
11,000	55,000	.008250	.000950	.....	.....	
11,200	56,000	.009100	.000850	.....	.....	
11,400	57,000	.010050	.000950	.....	.....	
11,600	58,000	.011100	.001050	.....	.....	
11,800	59,000	.012100	.001000	.....	.....	
12,000	60,000	.013750	.001650	.....	.....	
12,400	62,000	.016000	.002250	.....	.....	
12,800	64,000	.018500	.002500	.....	.....	
13,200	66,000	.021100	.002600	.....	.....	
13,600	68,000	.024000	.002900	.....	.....	
14,000	70,000	.027000	.003000	.....	.....	
14,400	72,000	.030600	.003600	.....	.....	
14,800	74,000	.034250	.003650	.....	.....	
15,200	76,000	.039000	.004750	.....	.....	
15,600	78,000	.043750	.004750	.....	.....	
16,000	80,000	.050250	.006500	.....	.....	
16,400	82,000	.0550	.004750	.....	.....	
16,800	84,000	.0650	.0100	.....	.....	
17,200	86,000	.0900	.0250	.....	.....	
17,380	86,900	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	86,900
Elastic limit per square inch of original section	do	51,000
Elongation per inch after rupture	inch	0.2350
Elongation per inch under strain at elastic limit	do	.001650
Reduction in diameter at point of rupture	do	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.31*, ″.16

No. 2402.

Marks, $\frac{32\ T_{16}}{M\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001300	.000150	.....	.....	
10,000	50,000	.001500	.000200	.....	.....	Elastic limit.
		.002750	.001250	.....	.....	
10,200	51,000	.003650	.000900	.....	.....	
10,400	52,000	.004750	.001100	.....	.....	
10,600	53,000	.006600	.001850	.....	.....	
10,800	54,000	.007400	.000800	.....	.....	
11,000	55,000	.008500	.001100	.....	.....	
11,200	56,000	.009700	.001200	.....	.....	
11,400	57,000	.010800	.001100	.....	.....	
11,600	58,000	.012000	.001200	.....	.....	
11,800	59,000	.013500	.001500	.....	.....	
12,000	60,000	.014550	.001050	.....	.....	
12,400	62,000	.016500	.001950	.....	.....	
12,800	64,000	.019000	.002500	.....	.....	
13,200	66,000	.021250	.002250	.....	.....	
13,600	68,000	.024500	.003250	.....	.....	
14,000	70,000	.028000	.003500	.....	.....	
14,400	72,000	.031250	.003250	.....	.....	
14,800	74,000	.035000	.003750	.....	.....	
15,200	76,000	.039250	.004250	.....	.....	
15,600	78,000	.045000	.005750	.....	.....	
16,000	80,000	.052000	.007000	.....	.....	
16,400	82,000	.0600	.0080	.....	.....	
16,800	84,000	.0750	.0150	.....	.....	
17,200	86,000	.0950	.0200	.....	.....	
17,320	86,600	.1250	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,600
Elastic limit per square inch or original section	do....	50,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.001500
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".40 from neck
Character of broken surface		silky
Elongation of inch sections		".30", ".10

No. 2448.

Marks, $\frac{32\ T_{16}}{B\ T_{8}}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001400	.000200	0.	.....	
9,000	45,000	.001600	.000200	.....	.....	
9,600	48,000	.001700	.000100	.....	.....	
9,800	49,000	.001750	.000050	.....	.....	Elastic limit.
10,000	50,000	.001950	.000200	.....	.....	
10,200	51,000	.002200	.000250	.....	.....	
10,400	52,000	.002550	.000350	.....	.....	
10,600	53,000	.003100	.000550	.....	.....	
10,800	54,000	.003650	.000550	.....	.....	
11,000	55,000	.004200	.000550	.....	.....	
11,200	56,000	.005250	.001050	.....	.....	
11,400	57,000	.006650	.001400	.....	.....	
11,600	58,000	.007750	.001100	.....	.....	
11,800	59,000	.008900	.001150	.....	.....	
12,000	60,000	.009900	.001000	.....	.....	
12,400	62,000	.012100	.002200	.....	.....	
12,800	64,000	.014100	.002000	.....	.....	
13,200	66,000	.016250	.002150	.....	.....	
13,600	68,000	.018400	.002150	.....	.....	
14,000	70,000	.020600	.002200	.....	.....	
14,400	72,000	.023500	.002900	.....	.....	
14,800	74,000	.026000	.002500	.....	.....	
15,200	76,000	.028750	.002750	.....	.....	
15,600	78,000	.032250	.003500	.....	.....	
16,000	80,000	.036400	.004150	.....	.....	
16,400	82,000	.040300	.003900	.....	.....	
16,800	84,000	.046000	.005700	.....	.....	
17,200	86,000	.052250	.006250	.....	.....	
17,600	88,000	.0600	.007750	.....	.....	
18,000	90,000	.0700	.0100	.....	.....	
18,020	90,100	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,100
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.0750
Elongation per inch under strain at elastic limit	do....	.001750
Reduction in diameter at point of rupture	do....	.025
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		at neck
Character of broken surface		granular; flaky spot at circumference
Elongation of inch sections		".08, ".0

No. 668.

Marks, $\frac{32\ T_{16}}{B\ T_8}$
Length, 4″.004.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000067	.000067	0.	.....	
5,000	10,000	.000200	.000133	0.	.....	
7,500	15,000	.000333	.000133	0.	.....	
10,000	20,000	.000500	.000167	— .000033	— .000033	
12,500	25,000	.000700	.000200	— .000067	— .000034	
15,000	30,000	.000867	.000167	— .000067	0.	
17,500	35,000	.001033	.000166	.....	.....	
20,000	40,000	.001233	.000200	.....	.....	
20,500	41,000	.001267	.000034	.....	.....	
21,000	42,000	.001300	.000033	.....	.....	
21,500	43,000	.001333	.000033	.....	.....	
22,000	44,000	.001367	.000034	.....	.....	
22,500	45,000	.001400	.000033	.....	.....	
23,000	46,000	.001433	.000033	.....	.....	
23,500	47,000	.001467	.000034	.....	.....	
24,000	48,000	.001500	.000033	.....	.....	Elastic limit.
24,500	49,000	.003467	.001967	.....	.....	
25,000	50,000	.003833	.000366	.....	.....	
25,500	51,000	.004800	.000967	.....	.....	
26,000	52,000	.005233	.000433	.....	.....	
45,600	91,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	48,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds..	91,200
Manner of failure		triple flexure

NEW TUBE No. 16.

No. 2674.

Marks, $^{32}_{B\,T}\,R_{B}^{T}$,
Diameter, $''$.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
8,200	41,000	.001250	.000050	.....	.....	
8,400	42,000	.001300	.000050	.....	.....	
8,600	43,000	.001350	.000050	.....	.....	
8,800	44,000	.001350	0.	.....	.....	
9,000	45,000	.001400	.000050	.....	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	Elastic limit.
9,600	48,000	.001750	.000250	.....	.....	
9,800	49,000	.002700	.000950	.....	.....	
10,000	50,000	.003850	.001150	.....	.....	
10,200	51,000	.004750	.000900	.....	.....	
10,400	52,000	.005500	.000750	.....	.....	
10,600	53,000	.006350	.000850	.....	.....	
10,800	54,000	.007300	.000950	.....	.....	
11,000	55,000	.008100	.000800	.....	.....	
11,200	56,000	.009000	.000900	.....	.....	
11,400	57,000	.009900	.000900	.....	.....	
11,600	58,000	.010850	.000950	.....	.....	
11,800	59,000	.011650	.000800	.....	.....	
12,000	60,000	.012650	.001000	.....	.....	
12,400	62,000	.014550	.001900	.....	.....	
12,800	64,000	.017000	.002450	.....	.....	
13,200	66,000	.019000	.002000	.....	.....	
13,600	68,000	.021150	.002150	.....	.....	
14,000	70,000	.023600	.002450	.....	.....	
14,400	72,000	.026500	.002900	.....	.....	
14,800	74,000	.029300	.002800	.....	.....	
15,200	76,000	.032250	.002950	.....	.....	
15,600	78,000	.036000	.003750	.....	.....	
16,000	80,000	.040250	.004250	.....	.....	
16,400	82,000	.0450	.004750	.....	.....	
16,800	84,000	.0525	.0075	.....	.....	
17,200	86,000	.0600	.0075	.....	.....	
17,600	88,000	.0750	.0150	.....	.....	
18,000	90,000	.0950	.0200	.....	.....	
18,220	91,100	.1400	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,100
Elastic limit per square inch of original section	do....	47,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do....	.001500
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		$''$.60 from neck
Character of broken surface	granular, 60 per centum; silky, 40 per centum	
Elongation of inch sections		$''$.12, $''$.29*

No. 2675.

Marks, $^{32\ R_{16}\ T}_{B\ T_8}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
8,200	41,000	.001250	.000050	.....	.....	
8,400	42,000	.001300	.000050	.....	.....	
8,600	43,000	.001350	.000050	.....	.....	
8,800	44,000	.001350	0.	.....	.....	
9,000	45,000	.001400	.000050	.....	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	Elastic limit.
9,600	48,000	.002100	.000600	.....	.....	
9,800	49,000	.003150	.001050	.....	.....	
10,000	50,000	.004550	.001400	.....	.....	
10,200	51,000	.005350	.000800	.....	.....	
10,400	52,000	.006150	.000800	.....	.....	
10,600	53,000	.007100	.000950	.....	.....	
10,800	54,000	.007900	.000800	.....	.....	
11,000	55,000	.008750	.000850	.....	.....	
11,200	56,000	.009550	.000800	.....	.....	
11,400	57,000	.010500	.000950	.....	.....	
11,600	58,000	.011400	.000900	.....	.....	
11,800	59,000	.012400	.001000	.....	.....	
12,000	60,000	.013300	.000900	.....	.....	
12,400	62,000	.016000	.002700	.....	.....	
12,800	64,000	.017900	.001900	.....	.....	
13,200	66,000	.019500	.001600	.....	.....	
13,600	68,000	.022100	.002600	.....	.....	
14,000	70,000	.024500	.002400	.....	.....	
14,400	72,000	.027000	.002500	.....	.....	
14,800	74,000	.030100	.003100	.....	.....	
15,200	76,000	.033500	.003400	.....	.....	
15,600	78,000	.037350	.003850	.....	.....	
16,000	80,000	.041500	.004150	.....	.....	
16,400	82,000	.047000	.005500	.....	.....	
16,800	84,000	.0550	.0080	.....	.....	
17,200	86,000	.0600	.0050	.....	.....	
17,600	88,000	.0800	.2000	.....	.....	
18,000	90,000	.1050	.0250	.....	.....	
18,150	90,750	.1550	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,750
Elastic limit per square inch of original section	do....	47,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001500
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		1 inch from neck
Character of broken surface	silky, 60 per centum; granular, 40 per centum	
Elongation of inch sections		".13, ".30*

No. 702.

Marks, $\frac{32\ R_{15}\ T}{B\ T_9}$ *
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000300	.000167	0.	.....	
7,500	15,000	.000467	.000167	0.	.....	
10,000	20,000	.000633	.000166	0.	.....	
12,500	25,000	.000800	.000167	0.	.....	
15,000	30,000	.000967	.000167	0.	.....	
17,500	35,000	.001133	.000166	0.	.....	
20,000	40,000	.001267	.000134	.....	.....	
20,500	41,000	.001300	.000033	.....	.....	
21,000	42,000	.001333	.000033	.....	.....	
21,500	43,000	.001367	.000034	.....	.....	
22,000	44,000	.001400	.000033	.....	.....	
22,500	45,000	.001433	.000033	.....	.....	
23,000	46,000	.001467	.000034	.....	.....	
23,500	47,000	.001500	.000033	.....	.....	Elastic limit.
24,000	48,000	.002500	.001000	.....	.....	
24,500	49,000	.003233	.000733	.....	.....	
25,000	50,000	.003733	.000500	.....	.....	
25,500	51,000	.004400	.000667	.....	.....	
26,000	52,000	.005333	.000933	.....	.....	
45,210	90,420	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds.	47,000
Compression per inch under stress at elastic limit	inch.	0.001500
Ultimate strength, per square inch of original section	pounds.	90,420
Manner of failure		triple flexure

No. 2676.

Marks, $\frac{32\,R_{16}\,T}{M\,T_3}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	.....	.....	
8,000	40,000	.001300	.000200	.....	.....	
8,200	41,000	.001350	.000050	.....	.....	
8,400	42,000	.001400	.000050	.....	.....	
8,600	43,000	.001500	.000100	.....	.....	
8,800	44,000	.001550	.000050	.....	.....	
9,000	45,000	.001550	0.	.....	.....	
9,200	46,000	.001650	.000100	.....	.....	
9,400	47,000	.001800	.000150	.....	.....	Elastic limit.
9,600	48,000	.002400	.000600	.....	.....	
9,800	49,000	.003500	.001100	.....	.....	
10,000	50,000	.005050	.001550	.....	.....	
10,200	51,000	.006000	.000950	.....	.....	
10,400	52,000	.007000	.001000	.....	.....	
10,600	53,000	.008000	.001000	.....	.....	
10,800	54,000	.008900	.000900	.....	.....	
11,000	55,000	.010000	.001100	.....	.....	
11,200	56,000	.010600	.000600	.....	.....	
11,400	57,000	.011600	.001000	.....	.....	
11,600	58,000	.012600	.001000	.....	.....	
11,800	59,000	.013650	.001050	.....	.....	
12,000	60,000	.014800	.001150	.....	.....	
12,400	62,000	.017000	.002200	.....	.....	
12,800	64,000	.019500	.002500	.....	.....	
13,200	66,000	.022050	.002550	.....	.....	
13,600	68,000	.024550	.002500	.....	.....	
14,000	70,000	.027350	.002800	.....	.....	
14,400	72,000	.030850	.003500	.....	.....	
14,800	74,000	.034400	.003550	.....	.....	
15,200	76,000	.038750	.004350	.....	.....	
15,600	78,000	.043750	.005000	.....	.....	
16,000	80,000	.0500	.006250	.....	.....	
16,400	82,000	.0550	.0050	.....	.....	
16,800	84,000	.0650	.0100	.....	.....	
17,200	86,000	.0900	.0250	.....	.....	
17,430	87,150	.1350	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,
Elastic limit per square inch of original section	do....	47,
Elongation per inch after rupture	inch..	0.2
Elongation per inch under strain at elastic limit	do....	.001
Reduction in diameter at point of rupture	do....	.
Reduction in area after rupture, per centum of original section		4
Position of rupture		¾ inch from ne
Character of broken surface		sil
Elongation of inch sections		″.11, ″.

No. 2677.

Marks, $\frac{32\ R_{16}\ T}{M\ T_4}$.
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000800	.000250	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001050	.000100	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
8,200	41,000	.001300	.000050	.....	.....	
8,400	42,000	.001350	.000050	.....	.....	
8,600	43,000	.001450	.000100	.....	.....	
8,800	44,000	.001500	.000050	.....	.....	
9,000	45,000	.001650	.000150	.....	.....	Elastic limit.
9,200	46,000	.002700	.001050	.....	.....	
9,400	47,000	.003600	.000900	.....	.....	
9,600	48,000	.005000	.001400	.....	.....	
9,800	49,000	.006100	.001100	.....	.....	
10,000	50,000	.007100	.001000	.....	.....	
10,200	51,000	.008000	.000900	.....	.....	
10,400	52,000	.008800	.000800	.....	.....	
10,600	53,000	.009850	.001050	.....	.....	
10,800	54,000	.011000	.001150	.....	.....	
11,000	55,000	.011750	.000750	.....	.....	
11,200	56,000	.012650	.000900	.....	.....	
11,400	57,000	.014000	.001350	.....	.....	
11,600	58,000	.015000	.001000	.....	.....	
11,800	59,000	.016250	.001250	.....	.....	
12,000	60,000	.017200	.000950	.....	.....	
12,400	62,000	.019750	.002550	.....	.....	
12,800	64,000	.022100	.002350	.....	.....	
13,200	66,000	.025050	.002950	.....	.....	
13,600	68,000	.027900	.002850	.....	.....	
14,000	70,000	.031500	.003600	.....	.....	
14,400	72,000	.035600	.004100	.....	.....	
14,800	74,000	.039750	.004150	.....	.....	
15,200	76,000	.045250	.005500	.....	.....	
15,600	78,000	.0550	.009750	.....	.....	
16,000	80,000	.0625	.0075	.....	.....	
16,400	82,000	.0750	.0125	.....	.....	
16,800	84,000	.0950	.0200	.....	.....	
17,010	85,050	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	85,050
Elastic limit per square inch of original section	do....	45,000
Elongation per inch after rupture	inch....	0.2150
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".32*, ".13

No. 2234.

Marks, $\frac{32\ T_{17}}{B\ T_1}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000400	.000100	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001650	.000100	.....	.....	
9,600	48,000	.001650	0.	.....	.....	
9,800	49,000	.001750	.000100	.....	.....	Elastic limit.
10,000	50,000	.001950	.000200	.....	.....	
10,200	51,000	.003700	.001750	.....	.....	
10,400	52,000	.005600	.001900	.....	.....	
10,600	53,000	.006700	.001100	.....	.....	
10,800	54,000	.007850	.001150	.....	.....	
11,000	55,000	.008900	.001050	.....	.....	
11,200	56,000	.010000	.001100	.....	.....	
11,400	57,000	.011150	.001150	.....	.....	
11,600	58,000	.012250	.001100	.....	.....	
11,800	59,000	.013550	.001300	.....	.....	
12,000	60,000	.014750	.001200	.....	.....	
12,400	62,000	.017550	.002800	.....	.....	
12,800	64,000	.020250	.002700	.....	.....	
13,200	66,000	.023200	.002950	.....	.....	
13,600	68,000	.026200	.003000	.....	.....	
14,000	70,000	.029750	.003550	.....	.....	
14,400	72,000	.033500	.003750	.....	.....	
14,800	74,000	.038000	.004500	.....	.....	
15,200	76,000	.043500	.005500	.....	.....	
15,600	78,000	.051000	.007500	.....	.....	
16,000	80,000	.059000	.008000	.....	.....	
16,400	82,000	.0750	.0160	.....	.....	
16,800	84,000	.0950	.0200	.....	.....	
16,920	84,600	.1350	.4000	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,600
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do....	.001750
Reduction in diameter at point of rupture	do....	.114
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		".80 from neck
Character of broken surface	granular, 50 per centum; dull, silky, 50 per centum	
Elongation of inch sections		".32*, ".15

No. 2235.

Marks, $\frac{32\ T_{17}}{B\ T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	Elastic limit.
10,000	50,000	.002850	.001200	.....	.....	
10,200	51,000	.005100	.002250	.....	.....	
10,400	52,000	.007000	.001900	.....	.....	
10,600	53,000	.008100	.001100	.....	.....	
10,800	54,000	.008750	.000650	.....	.....	
11,000	55,000	.009600	.000850	.....	.....	
11,200	56,000	.010600	.001000	.....	.....	
11,400	57,000	.011850	.001250	.....	.....	
11,600	58,000	.013100	.001250	.....	.....	
11,800	59,000	.014650	.001550	.....	.....	
12,000	60,000	.016250	.001600	.....	.....	
12,400	62,000	.018750	.002500	.....	.....	
12,800	64,000	.021500	.002750	.....	.....	
13,200	66,000	.024600	.003100	.....	.....	
13,600	68,000	.027750	.003150	.....	.....	
14,000	70,000	.031750	.004000	.....	.....	
14,400	72,000	.035750	.004000	.....	.....	
14,800	74,000	.041250	.005500	.....	.....	
15,200	76,000	.047000	.005750	.....	.....	
15,600	78,000	.055000	.008000	.....	.....	
16,000	80,000	.0650	.0100	.....	.....	
16,400	82,000	.0900	.0250	.....	.....	
16,570	82,850	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,850
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from neck
Character of broken surface		silky, 90 per centum; granular, 10 per centum
Elongation of inch sections		″.30, ″.13

No. 621.

Marks, $\frac{32\ T_{17}}{B\ T_3}$
Length, 3″.999.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000200	.000200	0.	.....	
5,000	10,000	.000400	.000200	0.	.....	
7,500	15,000	.000550	.000150	0.	.....	
10,000	20,000	.000750	.000200	0.	.....	
12,500	25,000	.000950	.000200	0.	.....	
15,000	30,000	.001100	.000150	0.	.....	
17,500	35,000	.001300	.000200	.000050	.000050	
20,000	40,000	.001500	.000200	.000050	0.	
20,500	41,000	.001500	0.	.....	.....	
21,000	42,000	.001550	.000050	.....	.....	
21,500	43,000	.001600	.000050	.....	.....	
22,000	44,000	.001650	.000050	.....	.....	
22,500	45,000	.001700	.000050	.000050	0.	
23,000	46,000	.001750	.000050	.....	.....	
23,500	47,000	.001700	.000050	.....	.....	
24,000	48,000	.001750	.000050	.....	.....	Elastic limit.
24,500	49,000	.002000	.000250	.....	.....	
25,000	50,000	.003000	.001000	.001300	.001250	
25,500	51,000	.004300	.001300	.....	.....	
26,000	52,000	.006200	.001900	.....	.....	
26,500	53,000	.007000	.000800	.....	.....	
27,000	54,000	.008000	.001000	.....	.....	
27,500	55,000	.008950	.000950	.006900	.005600	
44,400	88,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	48,000
Compression per inch under stress at elastic limit	inch..	0.001750
Ultimate strength per square inch of original section	pounds..	88,800
Manner of failure		triple flexure

No. 2236.

Marks, $\frac{32\ T_{17}}{M\ T_1}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001400	.000300	.000050	.000050	
8,200	41,000	.001450	.000050	.....	.....	
8,400	42,000	.001500	.000050	.....	.....	
8,600	43,000	.001550	.000050	.....	.....	
8,800	44,000	.001600	.000050	.....	.....	Elastic limit.
9,000	45,000	.003150	.001550	.....	.....	
9,200	46,000	.003700	.000550	.....	.....	
9,400	47,000	.004650	.000950	.....	.....	
9,600	48,000	.006650	.002000	.....	.....	
9,800	49,000	.007750	.001100	.....	.....	
10,000	50,000	.008950	.001200	.....	.....	
10,200	51,000	.010000	.001050	.....	.....	
10,400	52,000	.011050	.001050	.....	.....	
10,600	53,000	.012050	.001000	.....	.....	
10,800	54,000	.013100	.001050	.....	.....	
11,000	55,000	.014250	.001150	.....	.....	
11,200	56,000	.015350	.001100	.....	.....	
11,400	57,000	.016600	.001250	.....	.....	
11,600	58,000	.018250	.001650	.....	.....	
11,800	59,000	.019500	.001250	.....	.....	
12,000	60,000	.020850	.001350	.....	.....	
12,400	62,000	.024000	.003150	.....	.....	
12,800	64,000	.026850	.002850	.....	.....	
13,200	66,000	.030150	.003300	.....	.....	
13,600	68,000	.034000	.003850	.....	.....	
14,000	70,000	.038500	.004500	.....	.....	
14,400	72,000	.044250	.005750	.....	.....	
14,800	74,000	.050600	.006350	.....	.....	
15,200	76,000	.059000	.008400	.....	.....	
15,600	78,000	.0800	.0210	.....	.....	
16,000	80,000	.0950	.0150	.....	.....	
16,250	81,250	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,250
Elastic limit per square inch of original section	do....	44,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001600
Reduction in diameter at point of rupture	do....	.124
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		½ inch from nock
Character of broken surface		silky; slightly granular
Elongation of inch sections		″.31*, ″.12

No. 2237.

Marks, $\frac{32\ T_{17}}{M\ T_2}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	.000000	.000000	
2,000	10,000	.000400	.000250	.000050	.000050	
3,000	15,000	.000600	.000200	.000050	0.	
4,000	20,000	.000800	.000200	.000050	0.	
5,000	25,000	.000950	.000150	.000050	0.	
6,000	30,000	.001100	.000150	.000050	0.	
7,000	35,000	.001300	.000200	.000050	0.	
8,000	40,000	.001550	.000250	.000100	.000050	
9,000	45,000	.001700	.000150	.000100	0.	Elastic limit.
9,200	46,000	.002500	.000800	.....	.....	
9,400	47,000	.003750	.001250	.....	.....	
9,600	48,000	.006250	.002500	.....	.....	
9,800	49,000	.007500	.001250	.....	.....	
10,000	50,000	.008750	.001250	.....	.....	
10,200	51,000	.009500	.000750	.....	.....	
10,400	52,000	.010500	.001000	.....	.....	
10,600	53,000	.011400	.000900	.....	.....	
10,800	54,000	.012300	.000900	.....	.....	
11,000	55,000	.013750	.001450	.....	.....	
11,200	56,000	.015100	.001350	.....	.....	
11,400	57,000	.016250	.001150	.....	.....	
11,600	58,000	.017350	.001100	.....	.....	
11,800	59,000	.018800	.001450	.....	.....	
12,000	60,000	.020850	.002050	.....	.....	
12,400	62,000	.023000	.002150	.....	.....	
12,800	64,000	.026100	.003100	.....	.....	
13,200	66,000	.029650	.003550	.....	.....	
13,600	68,000	.033750	.004100	.....	.....	
14,000	70,000	.038000	.004250	.....	.....	
14,400	72,000	.043750	.005750	.....	.....	
14,800	74,000	.050250	.006500	.....	.....	
15,200	76,000	.0600	.009750	.....	.....	
15,600	78,000	.0800	.0200	.....	.....	
16,000	80,000	.1000	.0200	.....	.....	
16,190	80,950	.1350	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,950
Elastic limit per square inch of original section	do....	45,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.134
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.05 from neck
Character of broken surface		silky; slightly granular
Elongation of inch sections		″.35*, ″.10

No. 2264.

Marks, $\frac{32\ T_{18}}{B\ T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000900	.000200	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001400	.000200	0.	.....	
9,000	45,000	.001550	.000150	0.	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001700	.000100	.....	.....	
9,600	48,000	.001950	.000250	.....	.....	Elastic limit.
9,800	49,000	.001950	0.	.....	.....	
10,000	50,000	.003000	.001050	.....	.....	
10,200	51,000	.004100	.001100	.....	.....	
10,400	52,000	.005600	.001500	.....	.....	
10,600	53,000	.006800	.001200	.....	.....	
10,800	54,000	.008050	.001250	.....	.....	
11,000	55,000	.009050	.001000	.....	.....	
11,200	56,000	.010000	.000950	.....	.....	
11,400	57,000	.011050	.001050	.....	.....	
11,600	58,000	.012050	.001000	.....	.....	
11,800	59,000	.013050	.001000	.....	.....	
12,000	60,000	.014000	.000950	.....	.....	
12,400	62,000	.016050	.002050	.....	.....	
12,800	64,000	.018350	.002300	.....	.....	
13,200	66,000	.021000	.002650	.....	.....	
13,600	68,000	.023550	.002550	.....	.....	
14,000	70,000	.027000	.003450	.....	.....	
14,400	72,000	.030100	.003100	.....	.....	
14,800	74,000	.033100	.003000	.....	.....	
15,200	76,000	.037800	.004700	.....	.....	
15,600	78,000	.042250	.004450	.....	.....	
16,000	80,000	.048050	.005800	.....	.....	
16,400	82,000	.056000	.007950	.....	.....	
16,800	84,000	.0650	.0090	.....	.....	
17,200	86,000	.0850	.0200	.....	.....	
17,520	87,600	.1300	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,600
Elastic limit per square inch of original section	do....	48,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".55 from neck
Character of broken surface		silky, with fine granulation at circumference
Elongation of inch sections		".31*, ".11

No. 2265.

Marks, $\frac{32\ T_{15}}{B\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	.....	.....	
2,000	10,000	.000250	.000150	.....	.....	
3,000	15,000	.000450	.000200	.....	.....	
4,000	20,000	.000550	.000100	.....	.....	
5,000	25,000	.000750	.000200	.....	.....	
6,000	30,000	.000900	.000150	.....	.....	
7,000	35,000	.001050	.000150	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001350	.000150	.....	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001500	.000050	.....	.....	
9,800	49,000	.001600	.000100	.....	.....	
10,000	50,000	.001700	.000100	.....	.....	Elastic limit.
10,200	51,000	.002250	.000550	.....	.....	
10,400	52,000	.002850	.000600	.....	.....	
10,600	53,000	.003300	.000450	.....	.....	
10,800	54,000	.004600	.001300	.....	.....	
11,000	55,000	.006200	.001600	.....	.....	
11,200	56,000	.007500	.001300	.....	.....	
11,400	57,000	.008750	.001250	.....	.....	
11,600	58,000	.009600	.000850	.....	.....	
11,800	59,000	.010300	.000700	.....	.....	
12,000	60,000	.011200	.000900	.....	.....	
12,400	62,000	.013750	.002550	.....	.....	
12,800	64,000	.015650	.001900	.....	.....	
13,200	66,000	.018150	.002500	.....	.....	
13,600	68,000	.020750	.002600	.....	.....	
14,000	70,000	.023500	.002750	.....	.....	
14,400	72,000	.026750	.003250	.....	.....	
14,800	74,000	.029850	.002600	.....	.....	
15,200	76,000	.032800	.003450	.....	.....	
15,600	78,000	.036900	.004100	.....	.....	
16,000	80,000	.041500	.004600	.....	.....	
16,400	82,000	.048750	.007250	.....	.....	
16,800	84,000	.055000	.006250	.....	.....	
17,200	86,000	.0700	.0150	.....	.....	
17,600	88,000	.0850	.0150	.....	.....	
17,840	89,200	.1200	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,200
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		⅞ inch from neck
Character of broken surface		granular; dull center
Elongation of inch sections		".26", ".11

No. 2267.

Marks, $\frac{32\ T_{18}}{M\ T_2}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
8,200	41,000	.001200	.000050	.....	.....	
8,400	42,000	.001200	0.	.....	.....	
8,600	43,000	.001250	.000050	.....	.....	
8,800	44,000	.001300	.000050	.....	.....	Elastic limit.
9,000	45,000	.001550	.000250	.....	.....	
9,200	46,000	.002400	.000850	.....	.....	
9,400	47,000	.003550	.001150	.....	.....	
9,600	48,000	.004250	.000700	.....	.....	
9,800	49,000	.005000	.000750	.....	.....	
10,000	50,000	.006200	.001200	.....	.....	
10,200	51,000	.007500	.001300	.....	.....	
10,400	52,000	.009000	.001500	.....	.....	
10,600	53,000	.009900	.000900	.....	.....	
10,800	54,000	.010700	.000800	.....	.....	
11,000	55,000	.011750	.001050	.....	.....	
11,200	56,000	.013000	.001250	.....	.....	
11,400	57,000	.014150	.001150	.....	.....	
11,600	58,000	.015050	.000900	.....	.....	
11,800	59,000	.016600	.001550	.....	.....	
12,000	60,000	.018250	.001650	.....	.....	
12,400	62,000	.020750	.002500	.....	.....	
12,800	64,000	.023400	.002650	.....	.....	
13,200	66,000	.027000	.003600	.....	.....	
13,600	68,000	.030600	.003600	.....	.....	
14,000	70,000	.034350	.003750	.....	.....	
14,400	72,000	.039000	.004650	.....	.....	
14,800	74,000	.044750	.005750	.....	.....	
15,200	76,000	.051100	.006350	.....	.....	
15,600	78,000	.0600	.0089	.....	.....	
16,000	80,000	.0700	.0100	.....	.....	
16,400	82,000	.1000	.0300	.....	.....	
16,480	82,400	.1350	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,400
Elastic limit per square inch of original section	do....	44,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do....	.001300
Reduction in diameter at point of rupture	do....	.144
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".33", ".09

No. 1184.

Marks, $\frac{32\ T.}{B\ T.}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001450	.000200	.000050	.....	
9,200	46,000	.001450	0.	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001550	.000050	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	
10,000	50,000	.001650	.000050	.000050	0.	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	Elastic limit.
10,600	53,000	.007500	.005750	.....	.....	
10,800	54,000	.008250	.000750	.....	.....	
11,000	55,000	.009600	.001350	.007400	.007350	
11,200	56,000	.010150	.000550	.....	.....	
11,400	57,000	.010850	.000700	.....	.....	
11,600	58,000	.011950	.001100	.....	.....	
11,800	59,000	.013100	.001150	.....	.....	
12,000	60,000	.014250	.001150	.011850	.004450	
12,400	62,000	.016500	.002250	.....	.....	
12,800	64,000	.018650	.002150	.....	.....	
13,200	66,000	.021650	.003000	.....	.....	
13,600	68,000	.024950	.003300	.....	.....	
14,000	70,000	.027650	.002700	.....	.....	
14,400	72,000	.031500	.003850	.....	.....	
14,800	74,000	.035000	.003500	.....	.....	
15,200	76,000	.039300	.004300	.....	.....	
15,600	78,000	.045100	.005800	.....	.....	
16,000	80,000	.051550	.006450	.....	.....	
16,400	82,000	.059600	.008050	.....	.....	
16,800	84,000	.070000	.010400	.....	.....	
17,200	86,000	.092000	.022000	.....	.....	
17,490	87,450	.1450	.0580	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8767
Tensile strength per square inch of original section	pounds	87,450
Elastic limit per square inch of original section	do	52,000
Elongation per inch after rupture	inch	0.2300
Elongation per inch under strain at elastic limit	do	.001750
Reduction in diameter at point of rupture	do	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		″.55 from neck
Character of broken surface		silky
Elongation of inch sections		″.32*, ″.14

No. 1185.

Marks, $\frac{32\ T_{19}}{B\ T_7}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001450	.000250	.000050	.000050	
9,000	45,000	.001600	.000150	.000050	0.	
10,000	50,000	.001800	.000200	.000100	.000050	Elastic limit.
10,200	51,000	.002050	.001150	.....	.....	
10,400	52,000	.003400	.000450	.....	.....	
10,600	53,000	.008650	.003250	.....	.....	
10,800	54,000	.008200	.001550	.....	.....	
11,000	55,000	.009450	.001250	.007250	.007150	
11,200	56,000	.010100	.000650	.....	.....	
11,400	57,000	.010750	.000650	.....	.....	
11,600	58,000	.011750	.001000	.....	.....	
11,800	59,000	.013050	.001300	.....	.....	
12,000	60,000	.014250	.001200	.011700	.004450	
12,400	62,000	.016250	.002000	.....	.....	
12,800	64,000	.018500	.002250	.....	.....	
13,200	66,000	.021550	.003050	.....	.....	
13,600	68,000	.024550	.003000	.....	.....	
14,000	70,000	.027550	.003000	.....	.....	
14,400	72,000	.030750	.003200	.....	.....	
14,800	74,000	.035250	.004500	.....	.....	
15,200	76,000	.039000	.003750	.....	.....	
15,600	78,000	.044050	.005050	.....	.....	
16,000	80,000	.051500	.007450	.....	.....	
16,400	82,000	.059000	.007500	.....	.....	
16,800	84,000	.070000	.011000	.....	.....	
17,200	86,000	.090000	.020000	.....	.....	
17,490	87,450	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,450
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.124
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		½ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		".30", ".13

No. 565.

Marks, $\frac{32T_2}{B\ T_2}$
Length, 3″.993.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000800	.000150	0.	.....	
15,000	30,000	.000950	.000150	0.	.....	
17,500	35,000	.001100	.000150	0.	.....	
20,000	40,000	.001250	.000150	0.	.....	
22,500	45,000	.001300	.000050	0.	.....	
23,000	46,000	.001350	.000050	.....	.....	
23,500	47,000	.001400	.000050	.....	.....	
24,000	48,000	.001450	.000050	.....	.....	
24,500	49,000	.001450	0.	.....	.....	
25,000	50,000	.001500	.000050	0.	.....	
25,500	51,000	.001550	.000050	.....	.....	
26,000	52,000	.001550	0.	.....	.....	Elastic limit.
26,500	53,000	.005100	.003550	.....	.....	
27,000	54,000	.005400	.000300	.....	.....	
27,500	55,000	.006100	.000700	.004250	.004250	
45,450	90,900	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	52,000
Compression per inch under stress at elastic limit	inch..	0.001550
Ultimate strength per square inch of original section	pounds..	90,900
Manner of failure		triple flexure

No. 1186.

Marks, $\frac{32\ T_{19}}{M\ T_{1}}$
Diameter, $\frac{1}{1}$.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000350	.000100	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001400	.000150	.....	.....	
9,600	48,000	.001500	.000100	.....	.....	Elastic limit.
9,800	49,000	.001800	.000300	.....	.....	
10,000	50,000	.005150	.003350	.003250	.003250	
10,200	51,000	.008200	.001050	.....	.....	
10,400	52,000	.007000	.000800	.....	.....	
10,600	53,000	.007900	.000900	.....	.....	
10,800	54,000	.009100	.001200	.....	.....	
11,000	55,000	.009600	.000500	.007400	.004150	
11,200	56,000	.011200	.001600	.....	.....	
11,400	57,000	.011750	.000550	.....	.....	
11,600	58,000	.012450	.000700	.....	.....	
11,800	59,000	.013600	.001150	.....	.....	
12,000	60,000	.014250	.000650	.011900	.004500	
12,400	62,000	.016500	.002250	.....	.....	
12,800	64,000	.018600	.002100	.....	.....	
13,200	66,000	.021750	.003150	.....	.....	
13,600	68,000	.025000	.003250	.....	.....	
14,000	70,000	.027300	.002300	.....	.....	
14,400	72,000	.030150	.002850	.....	.....	
14,800	74,000	.034500	.004350	.....	.....	
15,200	76,000	.037500	.003000	.....	.....	
15,600	78,000	.042500	.005000	.....	.....	
16,000	80,000	.047450	.004950	.....	.....	
16,400	82,000	.053500	.006050	.....	.....	
16,800	84,000	.062500	.009000	.....	.....	
17,200	86,000	.075000	.012500	.....	.....	
17,600	88,000	.102500	.027500	.....	.....	
17,740	88,700	.137500	.035000	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,700
Elastic limit per square inch of original section	do....	48,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do....	.001500
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		$\frac{3}{4}$ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		".35", ".13

No. 1187.

Marks, $\frac{32\ T_{19}}{M\ T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001250	.000100	0.	.....	
9,000	45,000	.001400	.000150	.....	.....	
9,200	46,000	.001400	0.	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001550	.000100	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	
10,000	50,000	.001650	.000050	.....	.....	Elastic limit.
		.002450	.000800	.000850	.000850	
10,200	51,000	.004750	.002300	.....	.....	
10,400	52,000	.006000	.001250	.....	.....	
10,600	53,000	.007150	.001150	.....	.....	
10,800	54,000	.007750	.000600	.....	.....	
11,000	55,000	.008600	.000850	.006400	.005550	
11,200	56,000	.009350	.000750	.....	.....	
11,400	57,000	.009950	.000600	.....	.....	
11,600	58,000	.011150	.001200	.....	.....	
11,800	59,000	.012150	.001000	.....	.....	
12,000	60,000	.013100	.000950	.010850	.004450	
12,400	62,000	.015100	.002000	.....	.....	
12,800	64,000	.017300	.002200	.....	.....	
13,200	66,000	.019950	.002650	.....	.....	
13,600	68,000	.022500	.002550	.....	.....	
14,000	70,000	.025500	.003000	.....	.....	
14,400	72,000	.028500	.003000	.....	.....	
14,800	74,000	.032000	.003500	.....	.....	
15,200	76,000	.035500	.003500	.....	.....	
15,600	78,000	.040000	.004500	.....	.....	
16,000	80,000	.045000	.005000	.....	.....	
16,400	82,000	.051500	.006500	.....	.....	
16,800	84,000	.059250	.007750	.....	.....	
17,200	86,000	.069750	.010500	.....	.....	
17,600	88,000	.087000	.017250	.....	.....	
17,890	89,450	.1400	.0530	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,450
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		″.65 from neck
Character of broken surface		silky; traces of granulation
Elongation of inch sections		″.32*, ″.15

No. 1180.

Marks, $\frac{32\ T_{20}}{B\ T}$,
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	Elastic limit.
10,200	51,000	.001700	.000150	.....	.....	
10,400	52,000	.002000	.000300	.....	.....	
10,600	53,000	.002300	.000300	.....	.....	
10,800	54,000	.002850	.000550	.....	.....	
11,000	55,000	.004050	.001200	.002050	.002050	
11,200	56,000	.005600	.001550	.....	.....	
11,400	57,000	.006650	.001050	.....	.....	
11,600	58,000	.007800	.001150	.....	.....	
11,800	59,000	.008900	.001100	.....	.....	
12,000	60,000	.009950	.001050	.007650	.005600	
12,400	62,000	.012000	.002050	.....	.....	
12,800	64,000	.014550	.002550	.....	.....	
13,200	66,000	.017350	.002800	.....	.....	
13,600	68,000	.019550	.002200	.....	.....	
14,000	70,000	.022300	.002750	.....	.....	
14,400	72,000	.025750	.003450	.....	.....	
14,800	74,000	.028250	.002500	.....	.....	
15,200	76,000	.032250	.004000	.....	.....	
15,600	78,000	.036000	.003750	.....	.....	
16,000	80,000	.042000	.006000	.....	.....	
16,400	82,000	.047000	.005000	.....	.....	
16,800	84,000	.054500	.007500	.....	.....	
17,200	86,000	.065750	.011250	.....	.....	
17,600	88,000	.086000	.020250	.....	.....	
17,700	88,500	.1175	.0315	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8865
Tensile strength per square inch of original section	pounds	88,500
Elastic limit per square inch of original section	do	50,000
Elongation per inch after rupture	inch	0 2050
Elongation per inch under strain at elastic limit	do	.001550
Reduction in diameter at point of rupture	do	.134
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		⅜ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		".32*, ".09

No. 1181.

Marks, $\frac{32\ T_{20}}{B\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001350	.000150	.000050	.000050	
9,000	45,000	.001500	.000150	.000050	0.	
10,000	50,000	.001750	.000250	.000100	.000050	
10,200	51,000	.001800	.000050	.....	.....	
10,400	52,000	.001850	.000050	.....	.....	Elastic limit.
10,600	53,000	.002150	.000300	.....	.....	
10,800	54,000	.002600	.000450	.....	.....	
11,000	55,000	.003200	.000600	.001300	.001200	
11,200	56,000	.004250	.001050	.....	.....	
11,400	57,000	.004950	.000700	.....	.....	
11,600	58,000	.006300	.001350	.....	.....	
11,800	59,000	.007900	.001600	.....	.....	
12,000	60,000	.008400	.000500	.006100	.004800	
12,400	62,000	.010600	.002200	.....	.....	
12,800	64,000	.013050	.002450	.....	.....	
13,200	66,000	.015250	.002200	.....	.....	
13,600	68,000	.017250	.002000	.....	.....	
14,000	70,000	.019750	.002500	.....	.....	
14,400	72,000	.022500	.002750	.....	.....	
14,800	74,000	.025000	.002500	.....	.....	
15,200	76,000	.028100	.003100	.....	.....	
15,600	78,000	.031250	.003150	.....	.....	
16,000	80,000	.035000	.003750	.....	.....	
16,400	82,000	.039050	.004050	.....	.....	
16,800	84,000	.044050	.005000	.....	.....	
17,200	86,000	.050800	.006750	.....	.....	
17,600	88,000	.055000	.004200	.....	.....	
18,000	90,000	.072000	.007000	.....	.....	
18,400	92,000	.098500	.026500	.....	.....	
18,450	92,250	.1200	.0215	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	92,250
Elastic limit per square inch of original section	do....	52,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".55 from neck
Character of broken surface		silky, 85 per centum; granular, 15 per centum
Elongation of inch sections		".30", ".12

No. 566.

Marks, $\frac{32\ T_{20}}{B\ T_3}$
Length, 3″.997.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1.000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000050	.000050	0.	.....	
5,000	10,000	.000250	.000200	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001000	.000150	0.	.....	
20,000	40,000	.001150	.000150	0.	.....	
22,500	45,000	.001350	.000200	0.	.....	
25,000	50,000	.001600	.000250	.000050	.000050	Elastic limit.
25,500	51,000	.002500	.000900	.....	.....	
26,000	52,000	.003150	.000650	.....	.....	
26,500	53,000	.005000	.001850	.....	.....	
27,000	54,000	.006250	.001250	.....	.....	
27,500	55,000	.007900	.001650	.005900	.005850	
49,610	99,220	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds..	99,220
Manner of failure		triple flexure

No. 1182.

Marks, $\frac{32\ T.}{M\ T.}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000600	.000100	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001450	.000150	.000050	.000050	
9,600	48,000	.001500	.000050	.....	.....	
9,880	49,400	.001550	.000050	.....	.....	Elastic limit.
10,000	50,000	.001750	.000200	.....	.....	
10,200	51,000	.004250	.002700	.....	.....	
10,400	52,000	.005600	.001350	.....	.....	
10,600	53,000	.006600	.001000	.....	.....	
10,800	54,000	.007250	.006500	.....	.....	
11,000	55,000	.008400	.001150	.006350	.006300	
11,200	56,000	.009350	.000950	.....	.....	
11,400	57,000	.010200	.000850	.....	.....	
11,600	58,000	.011550	.001350	.....	.....	
11,800	59,000	.012550	.001000	.....	.....	
12,000	60,000	.013550	.001000	.011400	.005050	
12,400	62,000	.015850	.002300	.....	.....	
12,800	64,000	.018350	.002500	.....	.....	
13,200	66,000	.021200	.002850	.....	.....	
13,600	68,000	.024100	.002900	.....	.....	
14,000	70,000	.027150	.003050	.....	.....	
14,400	72,000	.031050	.003900	.....	.....	
14,800	74,000	.034250	.003200	.....	.....	
15,200	76,000	.038750	.004500	.....	.....	
15,600	78,000	.044150	.005400	.....	.....	
16,000	80,000	.052000	.007850	.....	.....	
16,400	82,000	.060500	.008500	.....	.....	
16,800	84,000	.072500	.012000	.....	.....	
17,200	86,000	.097500	.025000	.....	.....	
17,290	86,450	.1300	.0325	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,450
Elastic limit per square inch of original section	do ...	49,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do....	.001550
Reduction in diameter at point of rupture	do ...	.154
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".31", ".19

No. 1183.

Marks, $\frac{32\ T_2}{M\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	—.000030	—.000050	
2,000	10,000	.000200	.000100	—.000050	0.	
3,000	15,000	.000350	.000150	—.000050	0.	
4,000	20,000	.000550	.000200	—.000050	0.	
5,000	25,000	.000700	.000150	—.000050	0.	
6,000	30,000	.000850	.000150	—.000050	0.	
7,000	35,000	.001000	.000150	—.000050	0.	
8,000	40,000	.001200	.000200	—.000050	0.	
9,000	45,000	.001350	.000150	.....	.....	
9,400	47,000	.001450	.000100	.....	.....	
9,600	48,000	.001500	.000050	.....	.....	
9,800	49,000	.001550	.000050	.....	.....	Elastic limit.
10,000	50,000	.002000	.000450	.000350	.000400	
10,200	51,000	.002550	.000550	.....	.....	
10,400	52,000	.003700	.001150	.....	.....	
10,600	53,000	.004750	.001050	.....	.....	
10,800	54,000	.005550	.000800	.....	.....	
11,000	55,000	.006400	.000850	.004350	.004000	
11,200	56,000	.007650	.001250	.....	.....	
11,400	57,000	.008400	.000750	.....	.....	
11,600	58,000	.009250	.000850	.....	.....	
11,800	59,000	.010550	.001300	.....	.....	
12,000	60,000	.011400	.000850	.009150	.004800	
12,400	62,000	.013550	.002150	.....	.....	
12,800	64,000	.015750	.002200	.....	.....	
13,200	66,000	.018150	.002400	.....	.....	
13,600	68,000	.021000	.002850	.....	.....	
14,000	70,000	.023600	.002600	.....	.....	
14,400	72,000	.026550	.002950	.....	.....	
14,800	74,000	.029800	.003250	.....	.....	
15,200	76,000	.033050	.003250	.....	.....	
15,600	78,000	.037500	.004450	.....	.....	
16,000	80,000	.043000	.005500	.....	.....	
16,400	82,000	.048750	.005750	.....	.....	
16,800	84,000	.056000	.007250	.....	.....	
17,200	86,000	.067000	.011000	.....	.....	
17,600	88,000	.085000	.018000	.....	.....	
17,760	88,800	.1150	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,800
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do....	.001550
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".70 from neck
Character of broken surface		silky
Elongation of inch sections		".33*, ".09

No. 2258.

Marks, $\frac{32}{B}\frac{T_1}{T_1}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	.....	.....	
2,000	10,000	.000250	.000150	.....	.....	
3,000	15,000	.000400	.000150	.....	.....	
4,000	20,000	.000600	.000200	.....	.....	
5,000	25,000	.000800	.000200	.....	.....	
6,000	30,000	.000950	.000150	.....	.....	
7,000	35,000	.001150	.000200	.....	.....	
8,000	40,000	.001350	.000200	.....	.....	
9,000	45,000	.001500	.000150	.....	.....	
10,000	50,000	.001750	.000250	.....	.....	
10,200	51,000	.001800	.000050	.....	.....	Elastic limit.
10,400	52,000	.002100	.000300	.....	.....	
10,600	53,000	.003350	.001250	.....	.....	
10,800	54,000	.004600	.001250	.....	.....	
11,000	55,000	.006250	.001650	.....	.....	
11,200	56,000	.007900	.001650	.....	.....	
11,400	57,000	.008900	.001000	.....	.....	
11,600	58,000	.009900	.001000	.....	.....	
11,800	59,000	.010850	.000950	.....	.....	
12,000	60,000	.011850	.001000	.....	.....	
12,400	62,000	.014150	.002300	.....	.....	
12,800	64,000	.016400	.002250	.....	.....	
13,200	66,000	.019050	.002650	.....	.....	
13,600	68,000	.021500	.002450	.....	.....	
14,000	70,000	.024250	.002750	.....	.....	
14,400	72,000	.027500	.003250	.....	.....	
14,800	74,000	.031250	.003750	.....	.....	
15,200	76,000	.035400	.004150	.....	.....	
15,600	78,000	.039750	.004350	.....	.....	
16,000	80,000	.045250	.005500	.....	.....	
16,400	82,000	.052000	.006750	.....	.....	
16,800	84,000	.0600	.0080	.....	.....	
17,200	86,000	.0700	.0100	.....	.....	
17,600	88,000	.1000	.0300	.....	.....	
17,690	88,450	.1450	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,450
Elastic limit per square inch of original section	do....	51,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.134
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		§ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.31*, ″.16

No. 2259.

Marks, $\frac{32\ T_{11}}{B\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	—.000050	—.000050	
5,000	25,000	.000750	.000100	—.000050	0.	
6,000	30,000	.000900	.000150	—.000050	0.	
7,000	35,000	.001050	.000150	—.000050	0.	
8,000	40,000	.001200	.000150	—.000050	0.	
9,000	45,000	.001450	.000250	—.000000	.000050	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001650	.000100	.....	.....	Elastic limit.
9,800	49,000	.002250	.000600	.....	.....	
10,000	50,000	.002700	.000450	.....	.....	
10,200	51,000	.004000	.001300	.....	.....	
10,400	52,000	.005600	.001600	.....	.....	
10,600	53,000	.007100	.001500	.....	.....	
10,800	54,000	.008000	.000900	.....	.....	
11,000	55,000	.009050	.001050	.....	.....	
11,200	56,000	.010050	.001000	.....	.....	
11,400	57,000	.011050	.001000	.....	.....	
11,600	58,000	.012100	.001050	.....	.....	
11,800	59,000	.013250	.001150	.....	.....	
12,000	60,000	.014500	.001250	.....	.....	
12,400	62,000	.016650	.002150	.....	.....	
12,800	64,000	.019050	.002400	.....	.....	
13,200	66,000	.021350	.002300	.....	.....	
13,600	68,000	.024100	.002750	.....	.....	
14,000	70,000	.027050	.002950	.....	.....	
14,400	72,000	.030600	.003350	.....	.....	
14,800	74,000	.035050	.004450	.....	.....	
15,200	76,000	.039100	.004050	.....	.....	
15,600	78,000	.044750	.005650	.....	.....	
16,000	80,000	.051100	.006350	.....	.....	
16,400	82,000	.0600	.0089	.....	.....	
16,800	84,000	.0700	.0100	.....	.....	
17,200	86,000	.0950	.0250	.....	.....	
17,300	86,500	.1150	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	86,500
Elastic limit per square inch of original section	do	48,000
Elongation per inch after rupture	inch	0.2100
Elongation per inch under strain at elastic limit	do	.001650
Reduction in diameter at point of rupture	do	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".80 from neck
Character of broken surface		silky
Elongation of inch sections		".33", ".10

No. 631.

Marks, $\frac{32\ Tu}{B\ T_3}$
Length, 4″.002.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000200	.000200	0.	.....	
5,000	10,000	.000400	.000200	0.	.....	
7,500	15,000	.000550	.000150	0.	.....	
10,000	20,000	.000700	.000150	0.	.....	
12,500	25,000	.000850	.000150	0.	.....	
15,000	30,000	.000100	.000150	0.	.....	
17,500	35,000	.001150	.000150	0.	.....	
20,000	40,000	.001300	.000150	0.	.....	
22,500	45,000	.001450	0.	0.	.....	
23,000	46,000	.001450	.000150	.....	.....	
23,500	47,000	.001500	.000050	.....	.....	
24,000	48,000	.001550	.000050	.....	.....	
24,500	49,000	.001600	.000050	.....	.....	Elastic limit.
25,000	50,000	.002650	.001050	.001600	.001600	
25,500	51,000	.006850	.004200	.....	.....	
26,000	52,000	.009050	.002200	.....	.....	
44,990	89,980	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	49,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds..	89,980
Manner of failure		triple flexure

No. 2260.

Marks, $\frac{32\ T_2}{M\ T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
9,200	46,000	.001550	.000100	.....	.....	
9,400	47,000	.001650	.000100	.....	.....	Elastic limit.
9,600	48,000	.002150	.000500	.....	.....	
9,800	49,000	.002700	.000550	.....	.....	
10,000	50,000	.003250	.000550	.....	.....	
10,200	51,000	.003900	.000650	.....	.....	
10,400	52,000	.004900	.001000	.....	.....	
10,600	53,000	.005500	.000600	.....	.....	
10,800	54,000	.006850	.001350	.....	.....	
11,000	55,000	.009000	.002150	.....	.....	
11,200	56,000	.010500	.001500	.....	.....	
11,400	57,000	.011550	.001050	.....	.....	
11,600	58,000	.012400	.000850	.....	.....	
11,800	59,000	.013500	.001100	.....	.....	
12,000	60,000	.015000	.001500	.....	.....	
12,400	62,000	.017150	.002150	.....	.....	
12,800	64,000	.019650	.002500	.....	.....	
13,200	66,000	.022000	.002350	.....	.....	
13,600	68,000	.025000	.003000	.....	.....	
14,000	70,000	.028150	.003150	.....	.....	
14,400	72,000	.031700	.003550	.....	.....	
14,800	74,000	.035700	.004000	.....	.....	
15,200	76,000	.040750	.005050	.....	.....	
15,600	78,000	.046550	.008500	.....	.....	
16,000	80,000	.054000	.007450	.....	.....	
16,400	82,000	.0600	.0060	.....	.....	
16,800	84,000	.0800	.0200	.....	.....	
17,200	86,000	.1100	.0300	.....	.....	
17,210	86,050	.1250	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	86,050
Elastic limit per square inch of original section	do	47,000
Elongation per inch after rupture	inch	0.2050
Elongation per inch under strain at elastic limit	do	.001650
Reduction in diameter at point of rupture	do	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.33*, ″.06

No. 2261.

Marks, $\frac{32\ T_{11}}{M\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001400	.000200	0.	.....	
9,000	45,000	.001550	.000150	0.	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001650	.000050	.....	.....	
9,600	48,000	.001850	.000200	.....	.....	
9,800	49,000	.001950	.000100	.....	.....	
10,000	50,000	.002000	.000050	.....	.....	Elastic limit.
10,200	51,000	.002500	.000500	.....	.....	
10,400	52,000	.002750	.000250	.....	.....	
10,600	53,000	.003000	.000250	.....	.....	
10,800	54,000	.003400	.000400	.....	.....	
11,000	55,000	.004300	.000900	.....	.....	
11,200	56,000	.006000	.001700	.....	.....	
11,400	57,000	.007500	.001500	.....	.....	
11,600	58,000	.008550	.001050	.....	.....	
11,800	59,000	.009600	.001050	.....	.....	
12,000	60,000	.010600	.001000	.....	.....	
12,400	62,000	.013000	.002400	.....	.....	
12,800	64,000	.015350	.002350	.....	.....	
13,200	66,000	.017750	.002400	.....	.....	
13,600	68,000	.019850	.002100	.....	.....	
14,000	70,000	.022500	.002650	.....	.....	
14,400	72,000	.025250	.002750	.....	.....	
14,800	74,000	.028250	.003000	.....	.....	
15,200	76,000	.031450	.003200	.....	.....	
15,600	78,000	.035000	.003550	.....	.....	
16,000	80,000	.039500	.004500	.....	.....	
16,400	82,000	.044750	.005250	.....	.....	
16,800	84,000	.050750	.006000	.....	.....	
17,200	86,000	.0600	.009250	.....	.....	
17,600	88,000	.0800	.0200	.....	.....	
18,000	90,000	.1000	.0200	.....	.....	
18,050	90,250	.1300	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,
Elastic limit per square inch of original section	do....	50,
Elongation per inch after rupture	inch..	0. 1
Elongation per inch under strain at elastic limit	do....	.002
Reduction in diameter at point of rupture	do....	
Reduction in area after rupture, per centum of original section		4
Position of rupture		".40 from n
Character of broken surface		silky, with fine granulation at the circumfere
Elongation of inch sections		".27", "

No. 1697.

Marks, $\frac{32\ Tz}{B\ T_1}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	Elastic limit.
		.005750	.004450	.....	.....	
8,200	41,000	.006950	.001200	.....	.....	
8,400	42,000	.009450	.002500	.....	.....	
8,600	43,000	.010450	.001000	.....	.....	
8,800	44,000	.011950	.001500	.....	.....	
9,000	45,000	.012550	.000600	.010700	.010700	
9,200	46,000	.013550	.001000	.....	.....	
9,400	47,000	.014000	.000450	.....	.....	
9,600	48,000	.014900	.000900	.....	.....	
9,800	49,000	.016250	.001350	.....	.....	
10,000	50,000	.017350	.001100	.015350	.004650	
10,200	51,000	.018250	.000900	.....	.....	
10,400	52,000	.019050	.000800	.....	.....	
10,600	53,000	.019750	.000700	.....	.....	
10,800	54,000	.021500	.001750	.....	.....	
11,000	55,000	.023000	.001500	.....	.....	
11,200	56,000	.024050	.001050	.....	.....	
11,400	57,000	.025300	.001250	.....	.....	
11,600	58,000	.026600	.001300	.....	.....	
11,800	59,000	.028000	.001400	.....	.....	
12,000	60,000	.029600	.001600	.....	.....	
12,400	62,000	.033100	.003500	.....	.....	
12,800	64,000	.036300	.003200	.....	.....	
13,200	66,000	.040600	.004300	.....	.....	
13,600	68,000	.045500	.004900	.....	.....	
14,000	70,000	.050850	.005350	.....	.....	
14,400	72,000	.057750	.006900	.....	.....	
14,800	74,000	.065000	.007250	.....	.....	
15,200	76,000	.076000	.011000	.....	.....	
15,600	78,000	.0950	.0190	.....	.....	
16,000	80,000	.1200	.0250	.....	.....	
16,060	80,300	.1500	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,300
Elastic limit per square inch of original section	do....	40,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do ..	.001300
Reduction in diameter at point of rupture	do....	.114
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from middle of stem
Character of broken surface		dull silky center; granular at the circumference
Elongation of inch sections		".34", ".13

No. 1698.

Marks, $\frac{32\ T_{12}}{B\ T_2}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
7,800	39,000	.001200	.000150	.....	.....	Elastic limit.
8,000	40,000	.007200	.006000	.005650	.005650	
8,200	41,000	.007850	.000650	.....	.....	
8,400	42,000	.008500	.000650	.....	.....	
8,600	43,000	.009250	.000750	.....	.....	
8,800	44,000	.010300	.001050	.....	.....	
9,000	45,000	.011300	.001000	.....	.....	
9,200	46,000	.012100	.000800	.....	.....	
9,400	47,000	.013100	.001000	.....	.....	
9,600	48,000	.014100	.001000	.....	.....	
9,800	49,000	.015250	.001150	.....	.....	
10,000	50,000	.016250	.001000	.....	.....	
10,400	52,000	.018500	.002250	.....	.....	
10,800	54,000	.020650	.002150	.....	.....	
11,200	56,000	.023600	.002950	.....	.....	
11,600	58,000	.026150	.002550	.....	.....	
12,000	60,000	.029250	.003100	.....	.....	
12,400	62,000	.032850	.003600	.....	.....	
12,800	64,000	.036750	.003900	.....	.....	
13,200	66,000	.041050	.004300	.....	.....	
13,600	68,000	.047600	.006550	.....	.....	
14,000	70,000	.052650	.005050	.....	.....	
14,400	72,000	.061000	.008350	.....	.....	
14,800	74,000	.072000	.011000	.....	.....	
15,200	76,000	.085000	.013000	.....	.....	
15,600	78,000	.1150	.0300	.....	.....	
15,980	79,900	.1750	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,90
Elastic limit per square inch of original section	do....	39,00
Elongation per inch after rupture	inch..	0.260
Elongation per inch under strain at elastic limit	do....	.00120
Reduction in diameter at point of rupture	do....	.12
Reduction in area after rupture, per centum of original section		43.
Position of rupture		¾ inch from nec
Character of broken surface		dull silky; granular at circumferenc
Elongation of inch sections		″.35*, ″.1

No. 578.

Marks, $\frac{32\ T_2}{B\ T_1}$
Length 3″.997.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	—.000050	—.000050	
5,000	10,000	.000250	.000150	—.000050	0.	
7,500	15,000	.000350	.000100	—.000050	0.	
10,000	20,000	.000550	.000200	—.000100	—.000050	
12,500	25,000	.000700	.000150	—.000100	0.	
15,000	30,000	.000900	.000200	—.000100	0.	
15,500	31,000	.000900	0.	.....	.....	
16,000	32,000	.000950	.000050	.....	.....	
16,500	33,000	.001000	.000050	.....	.....	
17,000	34,000	.001000	0.	.....	.....	
17,500	35,000	.001050	.000050	—.000100	0.	
18,000	36,000	.001200	.000150	.....	.....	Elastic limit.
18,500	37,000	.003250	.002050	.....	.....	
19,000	38,000	.004200	.000950	.....	.....	
19,500	39,000	.004950	.000750	.....	.....	
20,000	40,000	.005500	.000550	.004400	.004500	
20,500	41,000	.006250	.000750	.....	.....	
21,000	42,000	.007000	.000750	.....	.....	
21,500	43,000	.008900	.001900	.....	.....	
22,000	44,000	.009850	.000950	.....	.....	
22,500	45,000	.010750	.000900	.009550	.005150	
23,000	46,000	.011750	.001000	.....	.....	
23,500	47,000	.012350	.000600	.....	.....	
24,000	48,000	.013800	.001450	.....	.....	
24,500	49,000	.014300	.000500	.....	.....	
25,000	50,000	.015500	.001200	.013750	.004200	
25,500	51,000	.016250	.000750	.....	.....	
26,000	52,000	.017150	.000900	.....	.....	
26,500	53,000	.018150	.001000	.....	.....	
27,000	54,000	.019500	.001450	.....	.....	
27,500	55,000	.020350	.000850	.018650	.004900	
28,000	56,000	.021550	.001200	.....	.....	
28,500	57,000	.022650	.001100	.....	.....	
29,000	58,000	.024000	.001350	.....	.....	
29,500	59,000	.025500	.001500	.....	.....	
30,000	60,000	.026400	.000900	.024750	.006100	
43,800	87,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	36,000
Compression per inch under stress at elastic limit	inch..	0.001200
Ultimate strength per square inch of original section	pounds..	87,600
Manner of failure		triple flexure

No. 1699.

Marks, $\frac{32\ Tm}{M\ T_1}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000300	.000150	0.		
3,000	15,000	.000400	.000100	0.		
4,000	20,000	.000600	.000200	0.		
5,000	25,000	.000700	.000100	0.		
6,000	30,000	.000900	.000200	0.		
7,000	35,000	.001050	.000150	0.		
8,000	40,000	.001200	.000150	0.		
8,200	41,000	.001250	.000050			
8,400	42,000	.001300	.000050			
8,600	43,000	.001350	.000050			
8,800	44,000	.001400	.000050			
9,000	45,000	.001450	.000050	.000050	.000050	Elastic limit.
		.003400	.001950			
9,200	46,000	.005400	.002000			
9,400	47,000	.007450	.002050			
9,600	48,000	.008950	.001500			
9,800	49,000	.009700	.000750			
10,000	50,000	.011000	.001300	.008950	.008900	
10,200	51,000	.011900	.000900			
10,400	52,000	.012400	.000500			
10,600	53,000	.013000	.000600			
10,800	54,000	.014250	.001200			
11,000	55,000	.015600	.001250			
11,200	56,000	.016600	.001250			
11,400	57,000	.017800	.001000			
11,600	58,000	.019050	.001200			
11,800	59,000	.020000	.000950			
12,000	60,000	.021400	.001400			
12,400	62,000	.024150	.002750			
12,800	64,000	.026800	.002650			
13,200	66,000	.030250	.003450			
13,600	68,000	.034700	.004450			
14,000	70,900	.038250	.003550			
14,400	72,000	.043250	.005000			
14,800	74,000	.049100	.005850			
15,200	76,000	.057000	.007900			
15,600	78,000	.065000	.008000			
16,000	80,000	.080500	.015500			
16,400	82,000	.104500	.024000			
16,680	83,400	.1600	.0555			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,400
Elastic limit per square inch of original section	do....	45,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do....	.001450
Reduction in diameter at point of rupture	do ...	.134
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".87", ".13

No. 1700.

Marks, $\frac{32\ T_2}{M\ T_2}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000550	.000200	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001300	.000100	0.	.....	
10,000	50,000	.001450	.000150	0.	.....	
10,200	51,000	.001500	.000050	.....	.....	
10,400	52,000	.001550	.000050	.....	.....	
10,600	53,000	.001600	.000050	.....	.....	Elastic limit.
10,800	54,000	.002450	.000850	.....	.....	
11,000	55,000	.004850	.002400	.002850	.002850	
11,200	56,000	.006200	.001350	.....	.....	
11,400	57,000	.007050	.000850	.....	.....	
11,600	58,000	.007900	.000850	.....	.....	
11,800	59,000	.008950	.001050	.....	.....	
12,000	60,000	.010150	.001200	.....	.....	
12,400	62,000	.012450	.002300	.....	.....	
12,800	64,000	.014600	.002150	.....	.....	
13,200	66,000	.017250	.002650	.....	.....	
13,600	68,000	.019600	.002350	.....	.....	
14,000	70,000	.022250	.002650	.....	.....	
14,400	72,000	.025050	.002800	.....	.....	
14,800	74,000	.027400	.002350	.....	.....	
15,200	76,000	.030600	.003200	.....	.....	
15,600	78,000	.035000	.004400	.....	.....	
16,000	80,000	.039650	.004650	.....	.....	
16,400	82,000	.045950	.006300	.....	.....	
16,800	84,000	.051750	.005800	.....	.....	
17,200	86,000	.061400	.009650	.....	.....	
17,600	88,000	.077000	.015600	.....	.....	
17,990	89,950	.1300	.0530	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,950
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do....	.001600
Reduction in diameter at point of rupture	do....	.124
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".35", ".13

[Additional specimens.]

No. 2506.

Marks, $\frac{32\ T_{22}}{B\ T_4}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000500	.000100	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000850	.000200	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
8,200	41,000	.001300	.000100	.....	.....	Elastic limit.
8,400	42,000	.001750	.000450	.....	.....	
8,600	43,000	.007750	.006000	.....	.....	
8,800	44,000	.010300	.002550	.....	.....	
9,000	45,000	.012600	.002300	.....	.....	
9,200	46,000	.013550	.000950	.....	.....	
9,400	47,000	.014550	.001000	.....	.....	
9,600	48,000	.015750	.001200	.....	.....	
9,800	49,000	.017100	.001350	.....	.....	
10,000	50,000	.018500	.001400	.....	.....	
10,400	52,000	.020750	.002250	.....	.....	
10,800	54,000	.024000	.003250	.....	.....	
11,200	56,000	.027000	.003000	.....	.....	
11,600	58,000	.030600	.003600	.....	.....	
12,000	60,000	.035000	.004400	.....	.....	
12,400	62,000	.039750	.004750	.....	.....	
12,800	64,000	.045850	.006100	.....	.....	
13,200	66,000	.052400	.006550	.....	.....	
13,600	68,000	.060500	.008100	.....	.....	
14,000	70,000	.0800	.0195	.....	.....	
14,400	72,000	.0900	.0100	.....	.....	
14,800	74,000	.1100	.0200	.....	.....	
15,100	75,500	.1650	.0550	.....	.....	Tensile strength

General summary.

Tensile strength per square inch of original section	pounds..	75,500
Elastic limit per square inch of original section	do ..	41,000
Elongation per inch after rupture	inch..	0.2750
Elongation per inch under strain at elastic limit	do....	.001300
Reduction in diameter at point of rupture	do....	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		″.90 from neck
Character of broken surface		silky
Elongation of inch sections		″.38*, ″.17

No. 2507.

Marks, $\frac{32\ T_{22}}{B\ T_5}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
8,200	41,000	.001250	.000050	.....	.....	
8,400	42,000	.001300	.000050	.....	.....	Elastic limit.
8,600	43,000	.005000	.003700	.....	.....	
8,800	44,000	.014000	.009000	.....	.....	
9,000	45,000	.015000	.001000	.....	.....	
9,200	46,000	.015550	.000550	.....	.....	
9,400	47,000	.016300	.000750	.....	.....	
9,600	48,000	.017550	.001250	.....	.....	
9,800	49,000	.018850	.001000	.....	.....	
10,000	50,000	.020000	.001450	.....	.....	
10,400	52,000	.022500	.002500	.....	.....	
10,800	54,000	.025250	.002750	.....	.....	
11,200	56,000	.028500	.003250	.....	.....	
11,600	58,000	.032150	.003650	.....	.....	
12,000	60,000	.035750	.003600	.....	.....	
12,400	62,000	.040600	.004850	.....	.....	
12,800	64,000	.045000	.004400	.....	.....	
13,200	66,000	.052500	.007500	.....	.....	
13,600	68,000	.0600	.0075	.....	.....	
14,000	70,000	.0650	.0050	.....	.....	
14,400	72,000	.0850	.0200	.....	.....	
14,800	74,000	.1000	.0150	.....	.....	
15,200	76,000	.1150	.0150	.....	.....	
15,480	77,400	.1800	.0650	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,400
Elastic limit per square inch of original section	do....	42,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do....	.001300
Reduction in diameter at point of rupture	do....	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		1″.05 from neck
Character of broken surface		granular, 60 per centum; dull flaky, 40 per centum
Elongation of inch sections		″.30*, ″.18

No. 653.

Marks, $\frac{32\ T_{22}}{B\ T_6}$
Length, 4.″003.
Diameter, ″.702.
Sectional area, .387 square inch.

Applied loads.		Compression per inch.	Successiv compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
387	1,000	0.	0.	0.	0.	Initial load.
1,935	5,000	.000100	.000100	0.	.....	
3,870	10,000	.000167	.000067	0.	.....	
5,805	15,000	.000300	.000133	0.	.....	
7,740	20,000	.000433	.000133	0.	.....	
9,675	25,000	.000600	.000167	0.	.....	
11,610	30,000	.000833	.000233	0.	.....	
13,545	35,000	.001000	.000167	0.	.....	
15,480	40,000	.001267	.000267	.000067	.000067	
15,867	41,000	.001267	0.	.....	.....	
16,254	42,000	.001300	.000033	.....	.....	
16,641	43,000	.001333	.000033	.....	.....	Elastic limit.
17,028	44,000	.002233	.000900	.....	.....	
17,415	45,000	.003000	.000767	.....	.....	
17,802	46,000	.003833	.000833	.....	.....	
18,189	47,000	.008433	.004600	.....	.....	
18,576	48,000	.009433	.001000	.....	.....	
29,420	76,020	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	43,000
Compression per inch under stress at elastic limit	inch..	0.001333
Ultimate strength per square inch of original section	pounds..	76,021
Manner of failure		triple flexure

No. 2508.

Marks, $\frac{32\ T_{22}}{M\ T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
8,200	41,000	.001250	.004050	.....	.....	
8,400	42,000	.001250	0.	.....	.....	
8,600	43,000	.001300	.000050	.....	.....	
8,800	44,000	.001350	.000050	.....	.....	
9,000	45,000	.001400	.000050	.....	.....	
9,200	46,000	.001400	0.	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001500	.000050	.....	.....	
9,800	49,000	.001550	.000050	.....	.....	
10,000	50,000	.001550	0.	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	Elastic limit.
10,600	53,000	.003600	.001950	.....	.....	
10,800	54,000	.004500	.000900	.....	.....	
11,000	55,000	.005000	.001500	.....	.....	
11,200	56,000	.009850	.003850	.....	.....	
11,400	57,000	.010750	.000900	.....	.....	
11,600	58,000	.011800	.001050	.....	.....	
11,800	59,000	.012800	.001000	.....	.....	
12,000	60,000	.014000	.001200	.....	.....	
12,400	62,000	.017500	.003500	.....	.....	
12,800	64,000	.020250	.002750	.....	.....	
13,200	66,000	.023000	.002750	.....	.....	
13,600	68,000	.025600	.002600	.....	.....	
14,000	70,000	.029250	.003650	.....	.....	
14,400	72,000	.033500	.004250	.....	.....	
14,800	74,060	.038000	.004500	.....	.....	
15,200	76,000	.043500	.005500	.....	.....	
15,600	78,000	.050000	.0065	.....	.....	
16,000	80,000	.0550	.0050	.....	.....	
16,400	82,000	.0700	.0150	.....	.....	
16,800	84,000	.0900	.0200	.....	.....	
17,010	85,050	.1450	.0550	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	85,050
Elastic limit per square inch of original section	do	52,000
Elongation per inch after rupture	inch	0.2500
Elongation per inch under strain at elastic limit	do	.001350
Reduction in diameter at point of rupture	do	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.15, ″.35*

No. 2509.

Marks, $\frac{22\ T_{20}}{M\ T_4}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000800	.000100	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001150	.000200	0.	.....	
9,000	45,000	.001350	.000200	.....	.....	
10,000	50,000	.001550	.000200	.....	.....	
10,200	51,000	.001550	0.	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001700	.000100	.....	.....	Elastic limit.
10,800	54,000	.002950	.001250	.....	.....	
11,000	55,000	.004250	.001300	.....	.....	
11,200	56,000	.007750	.003500	.....	.....	
11,400	57,000	.008550	.000800	.....	.....	
11,600	58,000	.009600	.001050	.....	.....	
11,800	59,000	.010650	.001050	.....	.....	
12,000	60,000	.012000	.001350	.....	.....	
12,400	62,000	.014150	.002150	.....	.....	
12,800	64,000	.016550	.002400	.....	.....	
13,200	66,000	.019250	.002700	.....	.....	
13,600	68,000	.022000	.002750	.....	.....	
14,000	70,000	.024750	.002750	.....	.....	
14,400	72,000	.028300	.003550	.....	.....	
14,800	74,000	.032050	.003750	.....	.....	
15,200	76,000	.036050	.004000	.....	.....	
15,600	78,000	.042000	.005950	.....	.....	
16,000	80,000	.048250	.006250	.....	.....	
16,400	82,000	.0550	.006750	.....	.....	
16,800	84,000	.0650	.0100	.....	.....	
17,200	86,000	.0900	.0250	.....	.....	
17,490	87,450	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,450
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2700
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		1″.25 from neck
Character of broken surface		silky
Elongation of inch sections		″.30*, ″.24*

No. 1701.

Marks, $\frac{22\ T_{28}}{B\ T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000250	.000150	0.		
3,000	15,000	.000400	.000150	0.		
4,000	20,000	.000550	.000150	0.		
5,000	25,000	.000750	.000200	0.		
6,000	30,000	.000850	.000100	0.		
7,000	35,000	.001050	.000200	0.		
8,000	40,000	.001250	.000200	0.		
9,000	45,000	.001400	.000150	0.		
10,000	50,000	.001600	.000200	0.		
10,200	51,000	.001650	.000050			
10,400	52,000	.001750	.000100			
10,600	53,000	.001850	.000100			Elastic limit.
10,800	54,000	.002400	.000550			
11,000	55,000	.003000	.000600	.001150	.001150	
11,200	56,000	.004100	.001100			
11,400	57,000	.005100	.001000			
11,600	58,000	.006400	.001300			
11,800	59,000	.007400	.001000			
12,000	60,000	.008700	.001300	.006450	.005300	
12,400	62,000	.009850	.001150			
12,800	64,000	.011800	.001950			
13,200	66,000	.014100	.002300			
13,600	68,000	.016000	.001900			
14,000	70,000	.018100	.002100			
14,400	72,000	.021250	.003150			
14,800	74,000	.023500	.002250			
15,200	76,000	.025600	.002150			
15,600	78,000	.028550	.002950			
16,000	80,000	.032100	.003550			
16,400	82,000	.035600	.003500			
16,800	84,000	.040000	.004400			
17,200	86,000	.045500	.005500			
17,600	88,000	.051550	.006050			
18,000	90,000	.062500	.010950			
18,400	92,000	.073750	.011250			
18,800	94,000	.1150	.041250			
18,810	94,050	.1850	.0700			Tensile strength.

General summary.

Specific gravity		7.8591
Tensile strength per square inch of original section	pounds	94,050
Elastic limit per square inch of original section	do	53,000
Elongation per inch after rupture	inch	0.2900
Elongation per inch under strain at elastic limit	do	.001850
Reduction in diameter at point of rupture	do	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		″.45 from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		″.30, ″.16

No. 1702.

Marks, $\frac{32\ T_{32}}{B\ T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000450	.000250	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000950	.000250	0.	.....	
7,000	35,000	.001050	.000100	0.	.....	
8,000	40,000	.001150	.000100	0.	.....	
9,000	45,000	.001300	.000150	0.	.....	
10,000	50,000	.001450	.000150	0.	.....	
10,200	51,000	.001500	.000050	.....	.....	
10,400	52,000	.001600	.000100	.....	.....	Elastic limit.
10,600	53,000	.001800	.000200	.....	.....	
10,800	54,000	.002000	.000200	.....	.....	
11,000	55,000	.002500	.000500	.000700	.000700	
11,200	56,000	.002950	.000450	.....	.....	
11,400	57,000	.003700	.000750	.....	.....	
11,600	58,000	.004900	.001200	.....	.....	
11,800	59,000	.006100	.001200	.....	.....	
12,000	60,000	.007250	.001150	.005050	.004350	
12,400	62,000	.009000	.001750	.....	.....	
12,800	64,000	.011300	.002300	.....	.....	
13,200	66,000	.013300	.002000	.....	.....	
13,600	68,000	.015500	.002200	.....	.....	
14,000	70,000	.018000	.002500	.....	.....	
14,400	72,000	.020400	.002400	.....	.....	
14,800	74,000	.023050	.002650	.....	.....	
15,200	76,000	.026050	.003000	.....	.....	
15,600	78,000	.028600	.002550	.....	.....	
16,000	80,000	.03250	.003900	.....	.....	
16,400	82,000	.036500	.004000	.....	.....	
16,800	84,000	.042000	.005500	.....	.....	
17,200	86,000	.047300	.005300	.....	.....	
17,600	88,000	.055600	.008300	.....	.....	
18,000	90,000	.065000	.009400	.....	.....	
18,400	92,000	.084250	.019250	.....	.....	
18,600	93,000	.1450	.060750	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,000
Elastic limit per square inch of original section	do....	52,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do....	.001600
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.8
Position of rupture		½ inch from neck
Character of broken surface		granular; dull center
Elongation of inch sections		″.32*, ″.17

No. 579

Marks, $\frac{32\ T_{32}}{B\ T_3}$
Length, 3″.995.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000600	.000150	0.	.....	
12,500	25,000	.000800	.000200	0.	.....	
15,000	30,000	.001000	.000200	0.	.....	
17,500	35,000	.001150	.000150	0.	.....	
20,000	40,000	.001350	.000200	0.	.....	
20,500	41,000	.001400	.000050	.....	.....	
21,000	42,000	.001400	0.	.....	.....	
21,500	43,000	.001450	.000050	.....	.....	
22,000	44,000	.001500	.000050	.....	.....	
22,500	45,000	.001550	.000050	.000050	.000050	
27,000	54,000	.006050	.004500	.004100	.004050	
27,500	55,000	.007250	.001200	.....	.....	
28,000	56,000	.008550	.001300	.....	.....	
28,500	57,000	.010450	.001900	.....	.....	
29,000	58,000	.012800	.002350	.....	.....	
29,500	59,000	.014500	.001700	.....	.....	
30,000	60,000	.016750	.002250	.014450	.010850	
48,100	96,200	.....	.....	.....	.....	Ultimate strength.

Manner of failure ..... triple flexure.

No. 1703.

Marks, $\frac{32\ T_{28}}{M\ T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000650	.000100	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001150	.000200	0.	.....	
9,000	45,000	.001300	.000150	0.	.....	
10,000	50,000	.001500	.000200	0.	.....	
10,200	51,000	.001550	.000050	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001600	0.	.....	.....	
10,800	54,000	.001650	.000050	.....	.....	
11,000	55,000	.001650	0.	0.	.....	
11,200	56,000	.001700	.000050	.....	.....	Elastic limit.
11,400	57,000	.002000	.000300	.....	.....	
11,600	58,000	.002500	.000500	.....	.....	
11,800	59,000	.003350	.000850	.....	.....	
12,000	60,000	.004950	.001600	.002800	.002800	
12,400	62,000	.007250	.002300	.....	.....	
12,800	64,000	.009200	.001950	.....	.....	
13,200	66,000	.011500	.002300	.....	.....	
13,600	68,000	.013700	.002200	.....	.....	
14,000	70,000	.015750	.002050	.....	.....	
14,400	72,000	.018250	.002500	.....	.....	
14,800	74,000	.020900	.002650	.....	.....	
15,200	76,000	.023600	.002700	.....	.....	
15,600	78,000	.026550	.002950	.....	.....	
16,000	80,000	.029800	.003250	.....	.....	
16,400	82,000	.033500	.003700	.....	.....	
16,800	84,000	.038250	.004750	.....	.....	
17,200	86,000	.043250	.005000	.....	.....	
17,600	88,000	.050600	.007350	.....	.....	
18,000	90,000	.059500	.008900	.....	.....	
18,400	92,000	.075000	.015500	.....	.....	
18,670	93,350	.1100	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,350
Elastic limit per square inch of original section	do....	56,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		⅝ inch from neck
Character of broken surface		granular; dull center
Elongation of inch sections		″.30*, ″.10

No. 1705.

Marks, $\frac{32\ T_{23}}{M\ T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001400	.000100	0.	.....	
10,000	50,000	.001550	.000150	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001650	0.	.....	.....	
10,800	54,000	.001700	.000050	.....	.....	
11,000	55,000	.001750	.000050	0.	.....	
11,200	56,000	.001800	.000050	.....	.....	
11,400	57,000	.001850	.000050	.....	.....	Elastic limit.
11,600	58,000	.002050	.000200	.....	.....	
11,800	59,000	.002300	.000250	.....	.....	
12,000	60,000	.003050	.000750	.001100	.001100	Rested under initial load 1 hour.
12,400	62,000	.004750	.001700	.....	.....	
12,800	64,000	.007500	.002750	.....	.....	
13,200	66,000	.010300	.002800	.....	.....	
13,600	68,000	.012550	.002250	.....	.....	
14,000	70,000	.014900	.002350	.....	.....	
14,400	72,000	.017100	.002200	.....	.....	
14,800	74,000	.020000	.002900	.....	.....	
15,200	76,000	.022300	.002300	.....	.....	
15,600	78,000	.025000	.002700	.....	.....	
16,000	80,000	.028400	.003400	.....	.....	
16,400	82,000	.032250	.003850	.....	.....	
16,800	84,000	.036000	.003750	.....	.....	
17,200	86,000	.041250	.005250	.....	.....	
17,600	88,000	.046800	.005550	.....	.....	
18,000	90,000	.056200	.009400	.....	.....	
18,400	92,000	.0700	.0138	.....	.....	
18,780	93,900	.1200	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,900
Elastic limit per square inch of original section	do....	57,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		at middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		″ 23*, ″.19

No. 2047.

Marks, $\frac{32\ T_{24}}{M\ T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250 .007450	.000150 .006200	0.	.....	Elastic limit.
8,200	41,000	.008650	.001200	.....	.....	
8,400	42,000	.009800	.001150	.....	.....	
8,600	43,000	.010400	.000600	.....	.....	
8,800	44,000	.011350	.000950	.....	.....	
9,000	45,000	.012150	.000800	.010400	.010400	
9,200	46,000	.013250	.001100	.....	.....	
9,400	47,000	.014900	.001650	.....	.....	
9,600	48,000	.016500	.001600	.....	.....	
9,800	49,000	.017050	.000550	.....	.....	
10,000	50,000	.017750	.000700	.....	.....	
10,200	51,000	.018550	.000800	.....	.....	
10,400	52,000	.019700	.001150	.....	.....	
10,600	53,000	.020850	.001150	.....	.....	
10,800	54,000	.022450	.001600	.....	.....	
11,000	55,000	.023950	.001500	.....	.....	
11,200	56,000	.025000	.001050	.....	.....	
11,400	57,000	.026800	.001800	.....	.....	
11,600	58,000	.028500	.001700	.....	.....	
11,800	59,000	.030050	.001550	.....	.....	
12,000	60,000	.031900	.001850	.....	.....	
12,400	62,000	.035750	.003850	.....	.....	
12,800	64,000	.041000	.005250	.....	.....	
13,200	66,000	.046000	.005000	.....	.....	
13,600	68,000	.052600	.006600	.....	.....	
14,000	70,000	.059550	.006950	.....	.....	
14,400	72,000	.070000	.010450	.....	.....	
14,800	74,000	.0900	.0200	.....	.....	
15,200	76,000	.1100	.0200	.....	.....	
15,460	77,300	.1600	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,300
Elastic limit per square inch of original section	do....	40,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do....	.001250
Reduction in diameter at point of rupture	do....	.185
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.05 from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.24, ″.28*

No. 2048.

Marks, $\frac{82\ T_M}{B\ T_S}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	—.000050	—.000050	
2,000	10,000	.000150	.000100	—.000050	0.	
3,000	15,000	.000250	.000100	—.000050	0.	
4,000	20,000	.000350	.000100	—.000050	0.	
5,000	25,000	.000500	.000150	—.000050	0.	
6,000	30,000	.000650	.000150	—.000050	0.	
7,000	35,000	.000900	.000250	—.000050	0.	
7,200	36,000	.000900	0.			
7,400	37,000	.000950	.000050			
7,600	38,000	.000950	0.			
7,800	39,000	.001000	.000050			Elastic limit.
8,000	40,000	.008800	.007800	.007250	.007800	
8,200	41,000	.009200	.000400			
8,400	42,000	.009900	.000700			
8,600	43,000	.010750	.000850			
8,800	44,000	.011600	.000850			
9,000	45,000	.012500	.000900			
9,200	46,000	.013550	.001050			
9,400	47,000	.014650	.001100			
9,600	48,000	.015750	.001100			
9,800	49,000	.016850	.001100			
10,000	50,000	.018150	.001300			
10,400	52,000	.020400	.002250			
10,800	54,000	.022900	.002500			
11,200	56,000	.026200	.003300			
11,600	58,000	.028900	.002700			
12,000	60,000	.032400	.003500			
12,400	62,000	.036050	.003650			
12,800	64,000	.040750	.004700			
13,200	66,000	.047250	.006500			
13,600	68,000	.053250	.006000			
14,000	70,000	.059500	.006250			
14,400	72,000	.068400	.008900			
14,800	74,000	.081000	.012600			
15,200	76,000	.1000	.0190			
15,600	78,000	.1400	.0400			
15,660	78,300	.1800	.0400			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,300
Elastic limit per square inch of original section	do....	39,000
Elongation per inch after rupture	inch..	0.2650
Elongation per inch under strain at elastic limit	do....	.001000
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from middle of stem
Character of broken surface		granular, 40 per centum; dull silky, 60 per centum
Elongation of inch sections		".34", ".21

No. 583.

Marks, $\frac{82\ T_{82}}{B\ T_2}$
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000500	.000100	0.	.....	
12,500	25,000	.000650	.000150	0.	.....	
15,000	30,000	.000850	.000200	0.	.....	
17,500	35,000	.001050	.000200	0.	.....	
18,000	36,000	.001050	0.	.....	.....	
18,500	37,000	.001100	.000050	.....	.....	
19,000	38,000	.001150	.000050	.....	.....	
19,500	39,000	.001200	.000050	.....	.....	
20,000	40,000	.001300	.000100	0.	.....	Elastic limit.
20,500	41,000	.001500	.000200	.....	.....	
21,000	42,000	.002250	.000750	.....	.....	
21,500	43,000	.006250	.004000	.....	.....	
22,000	44,000	.008000	.001750	.....	.....	
22,500	45,000	.008500	.000500	.007000	.007000	
23,000	46,000	.009150	.000650	.....	.....	
23,500	47,000	.009850	.000700	.....	.....	
24,000	48,000	.010500	.000650	.....	.....	
24,500	49,000	.011350	.000850	.....	.....	
25,000	50,000	.012250	.000900	.010350	.003350	
43,800	87,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	40,000
Compression per inch under stress at elastic limit	inch..	0.001300
Ultimate strength per square inch of original section	pounds..	87,600
Manner of failure		triple flexure

No. 2049.

Marks, $\frac{32\ T_{24}}{M\ T}$
Diameter, $\frac{1}{2}$".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001050	.000100	0.	.....	
7,200	36,000	.001050	0.	.....	.....	
7,400	37,000	.001100	.000050	.....	.....	
7,600	38,000	.001150	.000050	.....	.....	
7,800	39,000	.001200	.000050	.....	.....	
8,000	40,000	.001250	.000050	0.	.....	
8,200	41,000	.001250	0.	.....	.....	
8,400	42,000	.001350	.000100	.....	.....	
8,600	43,000	.001400	.000050	.....	.....	
8,800	44,000	.001400	0.	.....	.....	
9,000	45,000	.001450	.000050	0.	.....	
9,200	46,000	.001450	0.	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001550	.000050	.....	.....	Elastic limit.
9,800	49,000	.002700	.001150	.....	.....	
10,000	50,000	.004200	.001500	.002450	.002450	
10,200	51,000	.005900	.001700	.....	.....	
10,400	52,000	.007400	.001500	.....	.....	
10,600	53,000	.008100	.000700	.....	.....	
10,800	54,000	.009200	.001100	.....	.....	
11,000	55,000	.010100	.000900	.....	.....	
11,200	56,000	.011250	.001150	.....	.....	
11,400	57,000	.012700	.001450	.....	.....	
11,600	58,000	.013600	.000900	.....	.....	
11,800	59,000	.014600	.001000	.....	.....	
12,000	60,000	.015700	.001100	.....	.....	
12,400	62,000	.018000	.002300	.....	.....	
12,800	64,000	.020400	.002400	.....	.....	
13,200	66,000	.023500	.003100	.....	.....	
13,600	68,000	.026200	.002700	.....	.....	
14,000	70,000	.030100	.003900	.....	.....	
14,400	72,000	.034050	.003950	.....	.....	
14,800	74,000	.038500	.004450	.....	.....	
15,200	76,000	.044000	.005500	.....	.....	
15,600	78,000	.049750	.005750	.....	.....	
16,000	80,000	.058500	.008750	.....	.....	
16,400	82,000	.069250	.010750	.....	.....	
16,800	84,000	.0900	.020750	.....	.....	
17,170	85,850	.1500	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	85,850
Elastic limit per square inch of original section	do....	48,000
Elongation per inch after rupture	inch...	0.2400
Elongation per inch under strain at elastic limit	do....	.001550
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".4 from neck
Character of broken surface		silky
Elongation of inch sections		".20*, ".12

No. 2050.

Marks, $\frac{32\ T_{24}}{M\ T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001300	.000100	0.	.....	
8,200	41,000	.001350	.000050	.....	.....	
8,400	42,000	.001350	0.	.....	.....	
8,600	43,000	.001400	.000050	.....	.....	
8,800	44,000	.001450	.000050	.....	.....	
9,000	45,000	.001500	.000050	.0	.....	
9,200	46,000	.001500	0.	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001550	0	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	
10,000	50,000	.001650	.000050	.000050	.000050	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001850	.000150	.....	.....	Elastic limit.
10,800	54,000	.002700	.000850	.....	.....	
11,000	55,000	.004500	.001800	.002650	.002600	
11,200	56,000	.005650	.001150	.....	.....	
11,400	57,000	.006500	.000850	.....	.....	
11,600	58,000	.007550	.001050	.....	.....	
11,800	59,000	.008600	.001050	.....	.....	
12,000	60,000	.009700	.001100	.....	.....	
12,400	62,000	.011850	.002150	.....	.....	
12,800	64,000	.013800	.001950	.....	.....	
13,200	66,000	.016100	.002300	.....	.....	
13,600	68,000	.018550	.002450	.....	.....	
14,000	70,000	.021000	.002450	.....	.....	
14,400	72,000	.023850	.002850	.....	.....	
14,800	74,000	.026850	.003000	.....	.....	
15,200	76,000	.030150	.003300	.....	.....	
15,600	78,000	.034000	.003850	.....	.....	
16,000	80,000	.038350	.004350	.....	.....	
16,400	82,000	.044000	.005650	.....	.....	
16,800	84,000	.050000	.006000	.....	.....	
17,200	86,000	.059000	.009000	.....	.....	
17,600	88,000	.0750	.0160	.....	.....	
18,000	90,000	.0950	.0200	.....	.....	
18,060	90,300	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,300
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from neck
Character of broken surface	granular, 60 per centum; silky, 40 per centum	
Elongation of inch sections		″.31*, ″.15

[Additional specimens.]

No. 2403.

Marks, $\frac{32\ T_{24}}{B\ T_4}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000400	.000100	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001100	.000100	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
8,200	41,000	.001300	.000050	.....	.....	
8,400	42,000	.001400	.000100	.....	.....	Elastic limit
8,600	43,000	.001750	.000350	.....	.....	
8,800	44,000	.005100	.003350	.....	.....	
9,000	45,000	.007850	.002750	.....	.....	
9,200	46,000	.008650	.000800	.....	.....	
9,400	47,000	.010600	.001950	.....	.....	
9,600	48,000	.011750	.001150	.....	.....	
9,800	49,000	.013500	.001750	.....	.....	
10,000	50,000	.015350	.001850	.....	.....	
10,400	52,000	.017000	.001650	.....	.....	
10,800	54,000	.019600	.002600	.....	.....	
11,200	56,000	.022000	.002400	.....	.....	
11,600	58,000	.026100	.004100	.....	.....	
12,000	60,000	.030000	.003900	.....	.....	
12,400	62,000	.034500	.004500	.....	.....	
12,800	64,000	.039050	.004550	.....	.....	
13,200	66,000	.045000	.005950	.....	.....	
13,600	68,000	.051750	.006750	.....	.....	
14,000	70,000	.0600	.008250	.....	.....	
14,400	72,000	.0750	.0150	.....	.....	
14,800	74,000	.0900	.0150	.....	.....	
15,060	75,300	.1200	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,300
Elastic limit per square inch of original section	do....	42,000
Elongation per inch after rupture	inch..	0.2200
Elongation per inch under strain at elastic limit	do....	.001400
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		″.55 from neck
Character of broken surface		silky
Elongation of inch sections		″.35*, ″.09

No. 2404.

Marks, $\frac{32\ Tu}{B\ T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001350	.000200	.....	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001500	.000050	.....	.....	Elastic limit.
9,800	49,000	.004100	.002600	.....	.....	
10,000	50,000	.007100	.003000	.....	.....	
10,400	52,000	.008750	.001650	.....	.....	
10,800	54,000	.011500	.002750	.....	.....	
11,200	56,000	.013750	.002250	.....	.....	
11,600	58,000	.016000	.002250	.....	.....	
12,000	60,000	.019000	.003000	.....	.....	
12,400	62,000	.022000	.003000	.....	.....	
12,800	64,000	.024550	.002550	.....	.....	
13,200	66,000	.028000	.003450	.....	.....	
13,600	68,000	.032000	.004000	.....	.....	
14,000	70,000	.036250	.004250	.....	.....	
14,400	72,000	.042000	.005750	.....	.....	
14,800	74,000	.047500	.005500	.....	.....	
15,200	76,000	.055500	.008000	.....	.....	
15,600	78,000	.0600	.0045	.....	.....	
16,000	80,000	.0850	.0250	.....	.....	
16,300	81,500	.1500	.0650	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,500
Elastic limit per square inch of original section	do....	48,000
Elongation per inch after rupture	inch..	0.2450
Elongation per inch under strain at elastic limit	do....	.001500
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		".90 from neck
Character of broken surface		silky
Elongation of inch sections		".34", ".15

No. 648.

Marks, $\frac{32\ Ts}{B\ Ts}$.
Length, 4″.004.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000950	.000200	0.	.....	
17,500	35,000	.001250	.000300	.000050	.000050	
18,000	36,000	.001300	.000050	.....	.....	
18,500	37,000	.001350	.000050	.....	.....	
19,000	38,000	.001400	.000050	.....	.....	Elastic limit.
19,500	39,000	.001600	.000200	.....	.....	
20,000	40,000	.001900	.000300	.....	.....	
20,500	41,000	.011750	.009850	.....	.....	
21,000	42,000	.010500	.001250	.....	.....	
21,500	43,000	.010250	.000250	.....	.....	
22,000	44,000	.010400	.000150	.....	.....	
40,650	81,300	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	38,000
Compression per inch under stress at elastic limit	inch..	0.00140
Ultimate strength per square inch of original section	pounds..	81,300
Manner of failure		triple flexure

No. 2405

Marks, $\frac{32\ T_M}{M\ T_S}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000200	.000100	0.		
3,000	15,000	.000350	.000150	0.		
4,000	20,000	.000550	.000200	0.		
5,000	25,000	.000650	.000100	0.		
6,000	30,000	.000800	.000150	0.		
7,000	35,000	.000950	.000150	0.		
8,000	40,000	.001100	.000150			
9,000	45,000	.001300	.000200			
9,200	46,000	.001350	.000050			
9,400	47,000	.001400	.000050			Elastic limit.
9,600	48,000	.003500	.002100			
9,800	49,000	.004050	.000550			
10,000	50,000	.005000	.000950			
10,400	52,000	.006250	.003250			
10,800	54,000	.010500	.002250			
11,200	56,000	.014000	.003500			
11,600	58,000	.017000	.003000			
12,000	60,000	.020000	.003000			
12,400	62,000	.023000	.003000			
12,800	64,000	.026100	.003100			
13,200	66,000	.029500	.003400			
13,600	68,000	.034000	.004500			
14,000	70,000	.039250	.005250			
14,400	72,000	.045750	.006500			
14,800	74,000	.052000	.006250			
15,200	76,000	.0550	.0030			
15,600	78,000	.0650	.0300			
16,120	80,600	.1400	.0560			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	80,600
Elastic limit per square inch of original section	do	47,000
Elongation per inch after rupture	inch	0.2050
Elongation per inch under strain at elastic limit	do	.001400
Reduction in diameter at point of rupture	do	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		″.45 from neck
Character of broken surface		silky
Elongation of inch sections		″.32*, ″.09

No. 2406.

Marks, $\frac{32\ T_{36}}{M\ T_4}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000300	.000150	0.		
3,000	15,000	.000500	.000200	0.		
4,000	20,000	.000700	.000200	.000050	.000050	
5,000	25,000	.000900	.000200	.000050	0.	
6,000	30,000	.001100	.000200	.000100	.000050	
7,000	35,000	.001250	.000150	.000100	0.	
8,000	40,000	.001400	.000150			
9,000	45,000	.001600	.000200			
10,000	50,000	.001800	.000200			
10,200	51,000	.001850	.000050			
10,400	52,000	.001850	0.			
10,600	53,000	.001900	.000050			
10,800	54,000	.002000	.000100			Elastic limit.
11,000	55,000	.003000	.006000			
11,200	56,000	.009150	.001150			
11,400	57,000	.009650	.000500			
11,600	58,000	.010500	.000850			
11,800	59,000	.011750	.001250			
12,000	60,000	.014000	.002250			
12,400	62,000	.015800	.001800			
12,800	64,000	.018500	.002700			
13,200	66,000	.021100	.002600			
13,600	68,000	.024750	.003650			
14,000	70,000	.028000	.003250			
14,400	72,000	.031500	.003500			
14,800	74,000	.037000	.005500			
15,200	76,000	.043050	.006050			
15,600	78,000	.049500	.006450			
16,000	80,000	.0550	.0055			
16,400	82,000	.0650	.0100			
16,800	84,000	.1000	.0350			
16,820	84,100	.1200	.0200			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	84,100
Elastic limit per square inch of original section	do	54,000
Elongation per inch after rupture	inch	0.2350
Elongation per inch under strain at elastic limit	do	.002000
Reduction in diameter at point of rupture	do	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.85 from neck
Character of broken surface		silky
Elongation of inch sections		″.35°, ″.12

[Additional specimens.]

No. 2605.

Marks, $\frac{32\ T_{24}}{B\ T_7}$

Diameter, ″.505.

Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001350	.000150	.....	.....	
10,000	50,000	.001600	.000250	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	
11,000	55,000	.001850	.000050	.....	.....	Elastic limit.
11,200	56,000	.002150	.000300	.....	.....	
11,400	57,000	.003700	.001550	.....	.....	
11,600	58,000	.005600	.001900	.....	.....	
11,800	59,000	.007050	.001450	.....	.....	
12,000	60,000	.008500	.001450	.....	.....	
12,400	62,000	.010600	.002100	.....	.....	
12,800	64,000	.012850	.002250	.....	.....	
13,200	66,000	.015100	.002250	.....	.....	
13,600	68,000	.017600	.002500	.....	.....	
14,000	70,000	.020350	.002750	.....	.....	
14,400	72,000	.023000	.002650	.....	.....	
14,800	74,000	.026100	.003100	.....	.....	
15,200	76,000	.029500	.003400	.....	.....	
15,600	78,000	.033550	.004050	.....	.....	
16,000	80,000	.038000	.004450	.....	.....	
16,400	82,000	.043500	.005500	.....	.....	
16,800	84,000	.049750	.006250	.....	.....	
17,200	86,000	.0575	.007750	.....	.....	
17,600	88,000	.0700	.0125	.....	.....	
18,000	90,000	.1000	.0300	.....	.....	
18,080	90,400	.1450	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	00,400
Elastic limit per square inch of original section	do....	55,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.80 from neck
Character of broken surface		silky
Elongation of inch sections		″.32*, ″.11

No. 2606.

Marks, $\frac{32\ T_{24}}{B\ T_8}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.	.....	
2,000	10,000	.000150	.000100	0.	.....	
3,000	15,000	.000300	.000150	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000550	.000100	0.	.....	
6,000	30,000	.000750	.000200	0.	.....	
7,000	35,000	.000850	.000100	0.	.....	
8,000	40,000	.001000	.000150	0.	.....	
9,000	45,000	.001400	.000400	.....	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001550	.000100	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	Elastic limit.
10,000	50,000	.001800	.000150	.....	.....	
10,200	51,000	.001950	.000150	.....	.....	
10,400	52,000	.002450	.000500	.....	.....	
10,600	53,000	.003150	.000700	.....	.....	
10,800	54,000	.004350	.001200	.....	.....	
11,000	55,000	.006500	.002150	.....	.....	
11,200	56,000	.008350	.001850	.....	.....	
11,600	58,000	.010000	.001650	.....	.....	
12,000	60,000	.012050	.002050	.....	.....	
12,400	62,000	.014500	.002450	.....	.....	
12,800	64,000	.016500	.002000	.....	.....	
13,200	66,000	.019000	.002500	.....	.....	
13,600	68,000	.021750	.002750	.....	.....	
14,000	70,000	.024850	.003100	.....	.....	
14,400	72,000	.027550	.002700	.....	.....	
14,800	74,000	.031500	.003950	.....	.....	
15,200	76,000	.035000	.003500	.....	.....	
15,600	78,000	.040000	.005000	.....	.....	
16,000	80,000	.045150	.005150	.....	.....	
16,400	82,000	.0525	.007350	.....	.....	
16,800	84,000	.0575	.0050	.....	.....	
17,200	86,000	.0800	.0225	.....	.....	
17,600	88,000	.1000	.0200	.....	.....	
17,650	88,250	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,250
Elastic limit per square inch of original section	do....	49,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.70 from neck
Character of broken surface		silky
Elongation of inch sections		″.33*, ″.10

No. 677.

Marks, $\frac{32\ T_{24}}{B\ T_9}$
Length, 4″.005.
Diameter, ″.715.
Sectional area, .402 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
402	1,000	0.	0.	0.	0.	Initial load.
2,010	5,000	.000100	.000100	0.	.....	
4,020	10,000	.000233	.000133	0.	.....	
6,030	15,000	.000433	.000200	0.	.....	
8,040	20,000	.000567	.000134	0.	.....	
10,050	25,000	.000733	.000166	0.	.....	
12,060	30,000	.000933	.000200	0.	.....	
14,070	35,000	.001100	.000167	0.	.....	
16,080	40,000	.001267	.000167	0.	.....	
16,482	41,000	.001267	0.	.....	.....	
16,884	42,000	.001333	.000066	.....	.....	
17,286	43,000	.001367	.000034	.....	.....	
17,688	44,000	001400	.000033	.....	.....	
18,090	45,000	.001467	.000067	.....	.....	
18,492	46,000	.001500	.000033	.....	.....	
18,894	47,000	.001500	0.	.....	.....	Elastic limit.
19,296	48,000	.002067	.000567	.....	.....	
19,698	49,000	.002400	.000333	.....	.....	
20,100	50,000	.002733	.000333	.....	.....	
20,502	51,000	.000330	.000567	.....	.....	
20,904	52,000	.003833	.000533	.....	.....	
21,306	53,000	.004700	.000867	.....	.....	
21,708	54,000	.006033	.001333	.....	.....	
22,110	55,000	.007267	.001234	.....	.....	
23,850	84,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	47,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds..	84,200
Manner of failure		triple flexure

No. 2607.

Marks, $\frac{32\ T_M}{M\ T}$.
Diameter, $\frac{1}{2}$".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001350	.000150	.....	.....	
9,000	45,000	.001500	.000150	.....	.....	
9,200	46,000	.001550	.000050	.....	.....	Elastic limit.
9,400	47,000	.001750	.000200	.....	.....	
9,600	48,000	.002600	.000850	.....	.....	
9,800	49,000	.005500	.002900	.....	.....	
10,000	50,000	.006150	.000650	.....	.....	
10,400	52,000	.008400	.002250	.....	.....	
10,800	54,000	.010000	.001600	.....	.....	
11,200	56,000	.011800	.001800	.....	.....	
11,600	58,000	.013900	.002100	.....	.....	
12,000	60,000	.016400	.002500	.....	.....	
12,400	62,000	.018700	.002300	.....	.....	
12,800	64,000	.020600	.001900	.....	.....	
13,200	66,000	.022900	.002300	.....	.....	
13,600	68,000	.025500	.002600	.....	.....	
14,000	70,000	.028750	.003250	.....	.....	
14,400	72,000	.032300	.003550	.....	.....	
14,800	74,000	.034750	.002450	.....	.....	
15,200	76,000	.039050	.004300	.....	.....	
15,600	78,000	.044000	.004950	.....	.....	
16,000	80,000	.049500	.005500	.....	.....	
16,400	82,000	.0550	.0055	.....	.....	
16,800	84,000	.0650	.0100	.....	.....	
17,200	86,000	.0850	.0200	.....	.....	
17,600	88,000	.1050	.0290	.....	.....	
17,790	88,950	.1600	.0550	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,950
Elastic limit per square inch of original section	do....	46,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do....	.001550
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".14, ".34"

No. 2608.

Marks, $\frac{32\ Ts}{M\ Ts}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001150	.000100	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001500	.000150	.....	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	Elastic limit.
9,600	48,000	.002200	.000600	.....	.....	
9,800	49,000	.002300	.001100	.....	.....	
10,000	50,000	.005650	.002350	.....	.....	
10,400	52,000	.007700	.002050	.....	.....	
10,800	54,000	.009450	.001750	.....	.....	
11,200	56,000	.011500	.002050	.....	.....	
11,600	58,000	.013500	.002000	.....	.....	
12,000	60,000	.015600	.002100	.....	.....	
12,400	62,000	.017850	.002250	.....	.....	
12,800	64,000	.020250	.002400	.....	.....	
13,200	66,000	.022650	.002400	.....	.....	
13,600	68,000	.025750	.003100	.....	.....	
14,000	70,000	.028750	.003000	.....	.....	
14,400	72,000	.032250	.003500	.....	.....	
14,800	74,000	.036250	.004000	.....	.....	
15,200	76,000	.040500	.004250	.....	.....	
15,600	78,000	.046750	.006250	.....	.....	
16,000	80,000	.0525	.005750	.....	.....	
16,400	82,000	.0575	.0050	.....	.....	
16,800	84,000	.0625	.0050	.....	.....	
16,900	84,500	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,500
Elastic limit per square inch of original section	do....	47,000
Elongation per inch after rupture	inch..	0.0850
Elongation per inch under strain at elastic limit	do....	.001600
Reduction in diameter at point of rupture	do....	.035
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		".10 from neck
Character of broken surface		granular; flaky spot at circumference
Elongation of inch sections		".10*, ".07

No. 1706.

Marks, $\frac{32\ T_{25}}{B\ T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000400	.000100	0.	.....	
5,000	25,000	.000650	.000250	0.	.....	
6,000	30,000	.000850	.000200	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001350	.000200	0.	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001550	.000100	.....	.....	Elastic limit.
9,800	49,000	.001900	.000350	.....	.....	
10,000	50,000	.002500	.000600	.000850	.000850	
10,200	51,000	.003400	.000900	.....	.....	
10,400	52,000	.004450	.001050	.....	.....	
10,600	53,000	.005600	.001150	.....	.....	
10,800	54,000	.006450	.000850	.....	.....	
11,000	55,000	.007450	.001000	.005450	.004600	
11,200	56,000	.008500	.001050	.....	.....	
11,400	57,000	.009500	.001000	.....	.....	
11,600	58,000	.010500	.001000	.....	.....	
11,800	59,000	.012000	.001500	.....	.....	
12,000	60,000	.013000	.001000	.....	.....	
12,400	62,000	.015400	.002400	.....	.....	
12,800	64,000	.017700	.002300	.....	.....	
13,200	66,000	.020400	.002700	.....	.....	
13,600	68,000	.023500	.003100	.....	.....	
14,000	70,000	.026500	.003000	.....	.....	
14,400	72,000	.030150	.003650	.....	.....	
14,800	74,000	.033500	.003350	.....	.....	
15,200	76,000	.038300	.004800	.....	.....	
15,600	78,000	.043500	.005200	.....	.....	
16,000	80,000	.051100	.007600	.....	.....	
16,400	82,000	.061300	.010200	.....	.....	
16,800	84,000	.075250	.013950	.....	.....	
17,150	85,750	.1250	.049750	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8606
Tensile strength per square inch of original section	pounds	85,750
Elastic limit per square inch of original section	do.	48,000
Elongation per inch after rupture	inch	0.2450
Elongation per inch under strain at elastic limit	do.	.001550
Reduction in diameter at point of rupture	do.	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		⅝ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.36*, ″.13

No. 1707.

Marks, $\frac{32\ T_{36}}{B\ T_2}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000650	.000200	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001350	.000200	.....	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	Elastic limit.
9,600	48,000	.001800	.000350	.....	.....	
9,800	49,000	.003050	.001250	.....	.....	
10,000	50,000	.004700	.001650	.002950	.002950	
10,200	51,000	.005900	.001200	.....	.....	
10,400	52,000	.006700	.000800	.....	.....	
10,600	53,000	.007950	.001250	.....	.....	
10,800	54,000	.008900	.000950	.....	.....	
11,000	55,000	.009900	.001000	.007900	.004950	
11,200	56,000	.011000	.001100	.....	.....	
11,400	57,000	.011900	.000900	.....	.....	
11,600	58,000	.012150	.000250	.....	.....	
11,800	59,000	.014450	.001300	.....	.....	
12,000	60,000	.015750	.001300	.....	.....	
12,400	62,000	.018400	.002650	.....	.....	
12,800	64,000	.020700	.002300	.....	.....	
13,200	66,000	.023900	.003200	.....	.....	
13,600	68,000	.026800	.002900	.....	.....	
14,000	70,000	.030600	.003800	.....	.....	
14,400	72,000	.034550	.003950	.....	.....	
14,800	74,000	.039250	.004700	.....	.....	
15,200	76,000	.045100	.005850	.....	.....	
15,600	78,000	.051800	.006700	.....	.....	
16,000	80,000	.062050	.010250	.....	.....	
16,400	82,000	.078250	.016200	.....	.....	
16,790	83,950	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,950
Elastic limit per square inch of original section	do....	47,000
Elongation per inch after rupture	inch..	0.2550
Elongation per inch under strain at elastic limit	do....	.001450
Reduction in diameter at point of rupture	do....	.165
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		".45 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".37", ".14

No. 595.

Marks, $\frac{32\ T_{25}}{B\ T_2}$
Length, 3″.999.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000500	.000100	0.	.....	
12,500	25,000	.000650	.000150	0.	.....	
15,000	30,000	.000800	.000150	0.	.....	
17,500	35,000	.001000	.000200	0.	.....	
20,000	40,000	.001100	.000100	0.	.....	
22,500	45,000	.001250	.000150	—.000100	—.000100	
23,000	46,000	.001250	0.	.....	.....	
23,500	47,000	.001250	0.	.....	.....	
24,000	48,000	.001250	0.	.....	.....	
24,500	49,000	.001250	0.	.....	.....	
25,000	50,000	.001250	0.	—.000400	.000300	Elastic limit.
25,500	51,000	.001550	.000300	.....	.....	
26,000	52,000	.002250	.000700	.....	.....	
26,500	53,000	.003600	.001350	.....	.....	
27,000	54,000	.004500	.000900	.....	.....	
27,500	55,000	.005950	.001450	.004000	.004400	
45,800	91,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001250
Ultimate strength per square inch of original section	pounds..	91,600
Manner of failure		triple flexure

No. 1708

Marks, $\frac{32\,Ts}{M\,T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

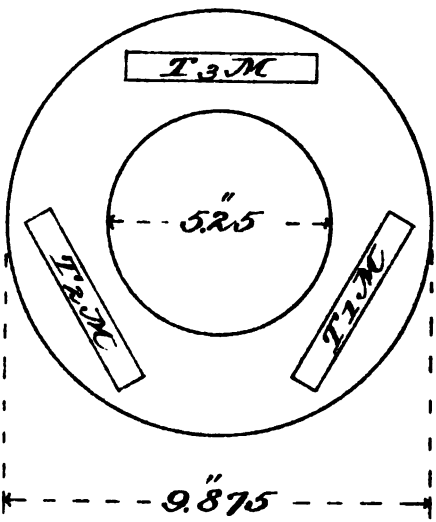
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000550	.000200	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001500	.000150	0.	.....	
10,200	51,000	.001600	.000100	.....	.....	
10,400	52,000	.001700	.000100	.....	.....	Elastic limit.
10,600	53,000	.002100	.000400	.....	.....	
10,800	54,000	.002700	.000600	.....	.....	
11,000	55,000	.005100	.002400	.003150	.003150	
11,200	56,000	.006600	.001500	.....	.....	
11,400	57,000	.007600	.001000	.....	.....	
11,600	58,000	.009000	.001400	.....	.....	
11,800	59,000	.010500	.001500	.....	.....	
12,000	60,000	.011500	.001000	.....	.....	
12,400	62,000	.013900	.002400	.....	.....	
12,800	64,000	.016100	.002200	.....	.....	
13,200	66,000	.018400	.002300	.....	.....	
13,600	68,000	.021050	.002650	.....	.....	
14,000	70,000	.023800	.002750	.....	.....	
14,400	72,000	.026700	.002900	.....	.....	
14,800	74,000	.030250	.003550	.....	.....	
15,200	76,000	.034150	.003900	.....	.....	
15,600	78,000	.039250	.005100	.....	.....	
16,000	80,000	.045250	.006000	.....	.....	
16,400	82,000	.051750	.006500	.....	.....	
16,800	84,000	.061400	.009650	.....	.....	
17,200	86,000	.075300	.013900	.....	.....	
17,600	88,000	.1050	.0297	.....	.....	
17,700	88,500	.1450	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,500
Elastic limit per square inch of original section	do....	52,000
Elongation per inch after rupture	inch..	0.2550
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".26*, ".25*

Jacket 3.2" Rifle

General drawing
showing positions from
whence specimens were taken.



H Ex 31 492

No. 962.

Marks, $\frac{22\,J}{B\,T,\,M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000500	.000250	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
7,200	36,000	.001150	.000050	.....	.....	
7,600	38,000	.001200	.000050	.....	.....	
8,000	40,000	.001250	.000050	0.	.....	
8,400	42,000	.001300	.000050	.....	.....	
8,800	44,000	.001350	.000050	.....	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,600	48,000	.001450	.000050	.....	.....	
10,000	50,000	.001500	.000050	.....	.....	
10,400	52,000	.001600	.000100	.....	.....	Elastic limit.
10,600	53,000	.001750	.000150	.....	.....	
10,800	54,000	.002450	.000700	.....	.....	
11,000	55,000	.003050	.000600	.....	.....	
11,200	56,000	.003600	.000550	.....	.....	
11,400	57,000	.004400	.000800	.....	.....	
11,600	58,000	.005250	.000850	.....	.....	
11,800	59,000	.006250	.001000	.....	.....	
12,000	60,000	.007500	.001250	.....	.....	
12,400	62,000	.010400	.002900	.....	.....	
12,800	64,000	.013050	.002650	.....	.....	
13,200	66,000	.015850	.002800	.....	.....	
14,000	70,000	.017500	.001650	.....	.....	
14,800	74,000	.020600	.003100	.....	.....	
15,600	78,000	.025350	.004750	.....	.....	
16,400	82,000	.030500	.005150	.....	.....	
17,200	86,000	.037000	.006500	.....	.....	
18,000	90,000	.045400	.008400	.....	.....	
18,800	94,000	.060100	.014700	.....	.....	
19,600	98,000	.0900	.0299	.....	.....	
19,820	99,100	.1650	.0150	.....	.....	Tensile strength.
17,200	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Specific gravity		7.8695
Tensile strength per square inch of original section	pounds..	99,100
Elastic limit per square inch of original section	do....	52,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.001600
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.5
Position of rupture		".55 from neck
Character of broken surface		dull silky
Elongation of inch sections		".29, ".11

No. 963.

Marks, $\frac{23\ J}{B\ T_2\ M}$.
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.	.....	
2,000	10,000	.000100	.000050	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000600	.000150	0.	.....	
6,000	30,000	.000800	.000200	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001100	.000150	0.	.....	
8,400	42,000	.001150	.000050	.....	.....	
8,800	44,000	.001200	.000050	.....	.....	
9,200	46,000	.001250	.000050	.....	.....	
9,600	48,000	.001350	.000100	.....	.....	
10,000	50,000	.001500	.000150	0.	.....	Elastic limit.
10,200	51,000	.002400	.000900	.....	.....	
10,400	52,000	.003100	.000700	.....	.....	
10,800	54,000	.004850	.001750	.....	.....	
11,200	56,000	.006850	.002000	.....	.....	
12,000	60,000	.010400	.003550	.....	.....	
12,800	64,000	.014350	.003950	.....	.....	
13,600	68,000	.017750	.003400	.....	.....	
14,400	72,000	.022650	.004900	.....	.....	
15,200	76,000	.028500	.005850	.....	.....	
16,000	80,000	.036000	.007500	.....	.....	
16,800	84,000	.043750	.007750	.....	.....	
17,600	88,000	.058000	.014250	.....	.....	
18,400	92,000	.0700	.0120	.....	.....	
19,000	95,000	.1250	.0550	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,000
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.1650
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.065
Reduction in area after rupture, per centum of original section		24.0
Position of rupture		".5 from neck
Character of broken surface..granular, 70 per centum; silky, 30 per centum; silky metal contains blow-hole.		
Elongation of inch sections		".21,".12

No. 531.

Marks, $\frac{22J_1}{B\ T_2\ M}$
Length, ″.449.
Diameter, ″.797.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000600	.000150	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001050	.000150	0.	.....	
20,000	40,000	.001250	.000200	0.	.....	
22,500	45,000	.001400	.000150	0.	.....	
24,000	48,000	.001600	.000200	.....	.....	Elastic limit.
24,500	49,000	.001700	.000100	.....	.....	
25,000	50,000	.001800	.000100	.000250	.000250	
25,500	51,000	.002050	.000250	.....	.....	
26,000	52,000	.002400	.000350	.....	.....	
26,500	53,000	.002800	.000400	.....	.....	
27,000	54,000	.003250	.000450	.....	.....	
27,500	55,000	.003950	.000700	.002050	.001800	
28,000	56,000	.004550	.000600	.....	.....	
28,500	57,000	.005300	.000750	.....	.....	
29,000	58,000	.006200	.000900	.....	.....	
29,500	59,000	.007200	.001000	.....	.....	
30,000	60,000	.007900	.000700	.005700	.003650	
47,900	95,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	48,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds..	95,800
Manner of failure		triple flexure

No. 964.

Marks, $\frac{32\,J.}{B\,T.\,M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000400	.000200	0.	.....	
3,000	15,000	.000600	.000200	0.	.....	
4,000	20,000	.000800	.000200	0.	.....	
5,000	25,000	.001000	.000200	0.	.....	
6,000	30,000	.001200	.000200	.000050	.000050	
7,000	35,000	.001350	.000150	.000050	0.	
8,000	40,000	.001500	.000150	.000050	0.	
9,200	46,000	.001750	.000250	.....	.....	
9,600	48,000	.001850	.000100	.....	.....	
10,000	50,000	.001900	.000050	.....	.....	
10,400	52,000	.002000	.000100	.....	.....	
10,800	54,000	.002100	.000100	.....	.....	
11,200	56,000	.002200	.000100	.000200	.000150	
11,600	58,000	.002300	.000100	.....	.....	
11,800	59,000	.002400	.000100	.....	.....	
12,000	60,000	.002500	.000100	.000400	.000200	Elastic limit.
12,200	61,000	.003000	.000500	.....	.....	
12,400	62,000	.003100	.000100	.....	.....	
12,600	63,000	.003250	.000150	.000950	.000550	
12,800	64,000	.003950	.000700	.....	.....	
13,000	65,000	.004700	.000750	.....	.....	
13,200	66,000	.005600	.000900	.....	.....	
13,600	68,000	.007800	.002200	.....	.....	
14,400	72,000	.011750	.003950	.....	.....	
15,200	76,000	.015100	.003350	.....	.....	
16,000	80,000	.019250	.004150	.....	.....	
16,800	84,000	.023350	.004100	.....	.....	
17,600	88,000	.028500	.005150	.....	.....	
18,400	92,000	.033650	.005150	.....	.....	
19,200	96,000	.039650	.006000	.....	.....	
20,000	100,000	.0550	.015350	.....	.....	
20,800	104,000	.0750	.0200	.....	.....	
21,200	106,000	.1200	.0450	.....	.....	Tensile strength.
19,600	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Specific gravity	7.8656
Tensile strength per square inch of original section ..... pounds..	106,000
Elastic limit per square inch of original section ..... do....	60,000
Elongation per inch after rupture ..... inch...	0.1650
Elongation per inch under strain at elastic limit ..... do....	.002500
Reduction in diameter at point of rupture ..... do....	.065
Reduction in area after rupture, per centum of original section	20.5
Position of rupture	½ inch from middle of stem
Character of broken surface	granular, with line of silky metal
Elongation of inch sections	″.23, ″.10

No. 965.

Marks, $\frac{32\ J.}{B\ T.\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000350	.000100	0.	.....	
4,000	20,000	.000450	.000100	0.	.....	
5,000	25,000	.000600	.000150	0.	.....	
6,000	30,000	.000750	.000150	0.	.....	
7,000	35,000	.000950	.000200	0.	.....	
8,000	40,000	.001100	.000150	0.	.....	
8,400	42,000	.001150	.000050	.....	.....	
8,800	44,000	.001250	.000100	.....	.....	
9,200	46,000	.001300	.000050	.....	.....	
9,600	48,000	.001350	.000050	.....	.....	
10,000	50,000	.001400	.000050	0.	.....	
10,400	52,000	.001550	.000150	.....	.....	
10,600	53,000	.001600	.000050	.....	.....	
10,800	54,000	.001650	.000050	.....	.....	
11,000	55,000	.001700	.000050	.....	.....	
11,200	56,000	.001800	.000100	0.	.....	
11,400	57,000	.001850	.000050	.....	.....	Elastic limit.
11,600	58,000	.002800	.000950	.....	.....	
11,800	59,000	.003100	.000300	.....	.....	
12,000	60,000	.003950	.000850	.001500	.001500	
12,400	62,000	.005750	.001800	.....	.....	
12,800	64,000	.007750	.002000	.....	.....	
13,600	68,000	.012000	.004250	.....	.....	
14,400	72,000	.016550	.004550	.....	.....	
15,200	76,000	.020750	.004200	.....	.....	
16,000	80,000	.025750	.005000	.....	.....	
16,800	84,000	.033000	.007250	.....	.....	
17,600	88,000	.039000	.006000	.....	.....	
18,400	92,000	.053000	.014000	.....	.....	
19,200	96,000	.0700	.0170	.....	.....	
19,880	99,400	.1100	.0400	.....	.....	Tensile strength.
17,300	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Tensile strength per square inch of original section	pounds..	99,400
Elastic limit per square inch of original section	do...	57,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.5
Position of rupture		".55 from neck
Character of broken surface		silky, with traces of granulation
Elongation of inch sections		".28", ".09

No. 532.

Marks, $\frac{32\,J_2}{B\,T_2\,M}$
Length, 4″.47.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000600	.000150	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000950	.000200	0.	.....	
17,500	35,000	.001050	.000100	0.	.....	
20,000	40,000	.001200	.000150	0.	.....	
20,500	41,000	.001250	.000050	.....	.....	
21,000	42,000	.001300	.000050	.....	.....	
21,500	43,000	.001350	.000050	.....	.....	
22,000	44,000	.001350	0.	.....	.....	
22,500	45,000	.001400	.000050	0.	.....	
23,000	46,000	.001450	.000050	.....	.....	
23,500	47,000	.001450	0.	.....	.....	
24,000	48,000	.001500	.000050	.....	.....	
24,500	49,000	.001550	.000050	.....	.....	
25,000	50,000	.001600	.000050	0.	.....	
25,500	51,000	.001650	.000050	.....	.....	
26,000	52,000	.051750	.000100	.....	.....	
26,500	53,000	.001800	.000050	.....	.....	
27,000	54,000	.001850	.000050	.....	.....	Elastic limit.
27,500	55,000	.002050	.000200	.000150	.000150	
28,000	56,000	.002400	.000350	.....	.....	
28,500	57,000	.002850	.000450	.....	.....	
29,000	58,000	.003500	.000650	.....	.....	
29,500	59,000	.004500	.001000	.....	.....	
30,000	60,000	.005400	.000900	.003200	.003050	
50,050	100,100	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.001850
Ultimate strength per square inch of original section	pounds..	100,100
Manner of failure		triple flexure

No. 986.

Marks, $\frac{32\,J_1}{M\,T_1\,M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000350	.000250	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000750	.000200	.000050	.000050	
5,000	25,000	.000950	.000200	.000050	0.	
6,000	30,000	.001150	.000200	.000100	.000050	
7,000	35,000	.001350	.000200	.000150	.000050	
8,000	40,000	.001500	.000150	.000150	0.	
9,000	45,000	.001700	.000200	.000150	0.	
10,000	50,000	.001900	.000200	.000150	0.	
11,000	55,000	.002150	.000250	.000200	.000050	
11,200	56,000	.002200	.000050	.....	.....	
11,400	57,000	.002250	.000050	.....	.....	
11,600	58,000	.002300	.000050	.....	.....	
11,800	59,000	.002350	.000050	.....	.....	
12,000	60,000	.002400	.000050	.000300	.000100	Elastic limit.
12,200	61,000	.002500	.000100	.....	.....	
12,400	62,000	.002700	.000200	.....	.....	
12,600	63,000	.003050	.000350	.....	.....	
12,800	64,000	.003250	.000200	.....	.....	
13,000	65,000	.003500	.000250	.001100	.000800	
13,200	66,000	.003900	.000400	.....	.....	
13,400	67,000	.004500	.000600	.....	.....	
13,600	68,000	.006200	.001700	.....	.....	
14,000	70,000	.008350	.002150	.005300	.004200	
14,400	72,000	.009250	.000900	.....	.....	
14,800	74,000	.011500	.002250	.....	.....	
15,200	76,000	.013200	.001700	.....	.....	
15,600	78,000	.015750	.000550	.....	.....	
16,000	80,000	.017500	.001750	.....	.....	
16,400	82,000	.020500	.003000	.....	.....	
16,800	84,000	.022150	.001650	.....	.....	
17,200	86,000	.024200	.002050	.....	.....	
17,600	88,000	.026100	.001900	.....	.....	
18,000	90,000	.028650	.002550	.....	.....	
18,400	92,000	.033750	.005100	.....	.....	
18,800	94,000	.036350	.002600	.....	.....	
19,200	96,000	.040750	.004400	.....	.....	
19,600	98,000	.044750	.004000	.....	.....	
20,000	100,000	.054250	.009500	.....	.....	
20,400	102,000	.0600	.005750	.....	.....	
20,800	104,000	.0650	.0050	.....	.....	
21,200	106,000	.0900	.0250	.....	.....	
21,460	107,300	.1150	.0250	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8590
Tensile strength per square inch of original section	pounds..	107,300
Elastic limit per square inch of original section	do...	60,000
Elongation per inch after rupture	inch..	0 1300
Elongation per inch under strain at elastic limit	do...	.002400
Reduction in diameter at point of rupture	do...	.035
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		¼ inch from middle of stem
Character of broken surface		granular; line of dull-colored metal at circumference
Elongation of inch sections		″.13*, ″.13

No. 987.

Marks, $\frac{32\ J_3}{M\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000750	.000300	0.	.....	
5,000	25,000	.001050	.000300	.000050	.000050	
6,000	30,000	.001250	.000200	.000150	.000100	
7,000	35,000	.001450	.000200	.000150	0.	
8,000	40,000	.001700	.000250	.000200	.000050	
9,000	45,000	.001950	.000250	.000250	.000050	
10,000	50,000	.002050	.000100	.000250	0.	
10,200	51,000	.002100	.000050	.....	.....	
10,400	52,000	.002150	.000050	.....	.....	
10,600	53,000	.002200	.000050	.....	.....	
10,800	54,000	.002250	.000050	.....	.....	
11,000	55,000	.002350	.000100	.000300	.000050	
11,200	56,000	.002450	.000100	.....	.....	
11,400	57,000	.002500	.000050	.....	.....	Elastic limit.
11,600	58,000	.002600	.000100	.....	.....	
11,800	59,000	.002700	.000100	.....	.....	
12,000	60,000	.003050	.000350	.000800	.000500	
12,200	61,000	.003450	.000400	.....	.....	
12,400	62,000	.003800	.000350	.....	.....	
12,600	63,000	.004300	.000500	.....	.....	
12,800	64,000	.005000	.000700	.....	.....	
13,000	65,000	.005500	.000500	.002700	.001900	
13,200	66,000	.006000	.000500	.....	.....	
13,400	67,000	.006800	.000800	.....	.....	
13,600	68,000	.007950	.001150	.....	.....	
13,800	69,000	.008450	.000500	.....	.....	
14,000	70,000	.009500	.001050	.....	.....	
14,400	72,000	.011300	.001800	.....	.....	
14,800	74,000	.012600	.001300	.....	.....	
15,200	76,000	.014600	.002000	.....	.....	
15,600	78,000	.015650	.001050	.....	.....	
16,000	80,000	.018000	.002350	.....	.....	
16,400	82,000	.019850	.001850	.....	.....	
16,800	84,000	.021000	.001150	.....	.....	
17,200	86,000	.024000	.003000	.....	.....	
17,600	88,000	.027250	.003250	.....	.....	
18,000	90,000	.030000	.002750	.....	.....	
18,400	92,000	.0320	.0020	.....	.....	
18,800	94,000	.0370	.0050	.....	.....	
19,200	96,000	.0425	.0055	.....	.....	
19,600	98,000	.0480	.0055	.....	.....	
20,000	100,000	.0545	.0065	.....	.....	
20,400	102,000	.0600	.0055	.....	.....	
20,800	104,000	.0650	.0050	.....	.....	
21,200	106,000	.0900	.0250	.....	.....	
21,450	107,250	.1200	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	107,250
Elastic limit per square inch of original section	do...	57,000
Elongation per inch after rupture	inch..	0.1500
Elongation per inch under strain at elastic limit	do...	.002500
Reduction in diameter at point of rupture	do...	.065
Reduction in area after rupture, per centum of original section		23.9
Position of rupture		§ inch from neck
Character of broken surface		granular; radiating from a point in the circumference
Elongation of inch sections		″.21*, ″.09

No. 529.

Marks, $\frac{32\ J_3}{M\ T, M}$
Length 4″.43.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000300	.000200	0.	.....	
7,500	15,000	.000400	.000100	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000900	.000150	—.000050	—.000050	
17,500	35,000	.001050	.000150	—.000050	0.	
20,000	40,000	.001250	.000200	—.000050	0.	
22,500	45,000	.001350	.000100	—.000050	0.	
23,000	46,000	.001400	.000050	.....	.....	
23,500	47,000	.001450	.000050	.....	.....	
24,000	48,000	.001450	0.	.....	.....	
24,500	49,000	.001500	.000050	.....	.....	
25,000	50,000	.001550	.000050	0.	.000050	
25,500	51,000	.001550	0.	.....	.....	
26,000	52,000	.001600	.000050	.....	.....	
26,500	53,000	.001700	.000100	.....	.....	
27,000	54,000	.001750	.000050	.....	.....	
27,500	55,000	.001800	.000050	0.	0.	
28,000	56,000	.001800	0.	.....	.....	
28,500	57,000	.001850	.000050	.....	.....	
29,000	58,000	.001900	.000050	.....	.....	
29,500	59,000	.001950	.000050	.....	.....	Elastic limit.
30,000	60,000	.002100	.000150	.000250	.000250	
30,500	61,000	.002300	.000200	.....	.....	
31,000	62,000	.002550	.000250	.....	.....	
31,500	63,000	.002850	.000300	.....	.....	
32,000	64,000	.003400	.000550	.....	.....	
32,500	65,000	.004100	.000700	.001800	.001550	
33,000	66,000	.004850	.000750	.....	.....	
33,500	67,000	.005650	.000800	.....	.....	
34,000	68,000	.006600	.000950	.....	.....	
34,500	69,000	.007500	.000550	.....	.....	
35,000	70,000	.007950	.000800	.005500	.003700	
52,900	105,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	59,000
Compression per inch under stress at elastic limit	inch..	0.001950
Ultimate strength per square inch of original section	pounds..	105,800
Manner of failure		triple flexure

[Additional specimens.]

No. 2082.

Marks, $\frac{32\ J_3}{M\ T_4\ M}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.	.....	
2,000	10,000	.000150	.000100	0.	.....	
3,000	15,000	.000300	.000150	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000600	.000150	0.	.....	
6,000	30,000	.000800	.000200	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001150	.000200	0.	.....	
9,000	45,000	.001350	.000200	0.	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001500	.000050	.....	.....	
9,800	49,000	.001550	.000050	0.	.....	
10,000	50,000	.001600	.000050	.....	.....	Elastic limit.
10,200	51,000	.001800	.000200	.....	.....	
10,400	52,000	.002700	.000900	.....	.....	
10,600	53,000	.003550	.000850	.....	.....	
10,800	54,000	.004300	.000750	.....	.....	
11,000	55,000	.005050	.000750	.....	.....	
11,200	56,000	.006000	.000950	.....	.....	
11,400	57,000	.006750	.000750	.....	.....	
11,600	58,000	.007650	.000900	.....	.....	
11,800	59,000	.008450	.000800	.....	.....	
12,000	60,000	.009550	.001100	.....	.....	
12,400	62,000	.011000	.001450	.....	.....	
12,800	64,000	.012550	.001550	.....	.....	
13,200	66,000	.014450	.001900	.....	.....	
13,600	68,000	.016350	.001900	.....	.....	
14,000	70,000	.018550	.002200	.....	.....	
14,400	72,000	.020750	.002200	.....	.....	
14,800	74,000	.022750	.002000	.....	.....	
15,200	76,000	.025250	.002500	.....	.....	
15,600	78,000	.028050	.002800	.....	.....	
16,000	80,000	.030850	.002800	.....	.....	
16,400	82,000	.034750	.003900	.....	.....	
16,800	84,000	.038250	.003500	.....	.....	
17,200	86,000	.042350	.004100	.....	.....	
17,600	88,000	.047500	.005150	.....	.....	
18,000	90,000	.054500	.007000	.....	.....	
18,400	92,000	.062000	.007500	.....	.....	
18,800	94,000	.9500	.0330	.....	.....	
19,320	96,600	.1200	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,600
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		″.29*, ″.14

No. 2083.

Marks, $\frac{32\ J_2}{M\ T_2 M}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000850	.000200	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
9,200	46,000	.001350	0.	.....	.....	
9,400	47,000	.001400	.000050	.....	.....	
9,600	48,000	.001450	.000050	.....	.....	
9,800	49,000	.001500	.000050	.....	.....	
10,000	50,000	.001600	.000100	0.	.....	Elastic limit.
10,200	51,000	.002250	.000650	.....	.....	
10,400	52,000	.003700	.001450	.....	.....	
10,600	53,000	.004700	.001000	.....	.....	
10,800	54,000	.005600	.000900	.....	.....	
11,000	55,000	.006450	.000850	.....	.....	
11,200	56,000	.007450	.001000	.....	.....	
11,400	57,000	.008550	.001100	.....	.....	
11,600	58,000	.009500	.000950	.....	.....	
11,800	59,000	.010050	.000550	.....	.....	
12,000	60,000	.010850	.000800	.....	.....	
12,400	62,000	.012450	.001600	.....	.....	
12,800	64,000	.014150	.001700	.....	.....	
13,200	66,000	.016350	.002200	.....	.....	
13,600	68,000	.018400	.002050	.....	.....	
14,000	70,000	.020350	.001950	.....	.....	
14,400	72,000	.022850	.002500	.....	.....	
14,800	74,000	.025500	.002650	.....	.....	
15,200	76,000	.028350	.002850	.....	.....	
15,600	78,000	.031000	.002650	.....	.....	
16,000	80,000	.033750	.002750	.....	.....	
16,400	82,000	.038750	.005000	.....	.....	
16,800	84,000	.042500	.003750	.....	.....	
17,200	86,000	.048000	.005500	.....	.....	
17,600	88,000	.053750	.005750	.....	.....	
18,000	90,000	.062250	.008500	.....	.....	
18,400	92,000	.0800	.017750	.....	.....	
18,800	94,000	.0950	.0150	.....	.....	
18,920	94,600	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	94,600
Elastic limit per square inch of original section	do	50,000
Elongation per inch after rupture	inch	0.2150
Elongation per inch under strain at elastic limit	do	.001600
Reduction in diameter at point of rupture	do	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		″.10 from middle of stem
Character of broken surface		granular
Diameter ″.2 from point of rupture		″.39
Elongation of inch sections		″.30, ″.13

No. 2084.

Marks, $\frac{32\ J_3}{M\ T_6\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000500	.000200	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000850	.000200	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	.....	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001400	0.	.....	.....	
9,600	48,000	.001450	.000050	.....	.....	
9,800	49,000	.001550	.000100	.....	.....	Elastic limit.
10,000	50,000	.001800	.000250	.....	.....	
10,200	51,000	.002500	.000700	.....	.....	
10,400	52,000	.003300	.000800	.....	.....	
10,600	53,000	.004350	.001050	.....	.....	
10,800	54,000	.005300	.000950	.....	.....	
11,000	55,000	.006350	.001050	.....	.....	
11,200	56,000	.007150	.000800	.....	.....	
11,400	57,000	.007900	.000750	.....	.....	
11,600	58,000	.008700	.000800	.....	.....	
11,800	59,000	.009600	.000900	.....	.....	
12,000	60,000	.014000	.000800	.....	.....	
12,400	62,000	.012100	.001700	.....	.....	
12,800	64,000	.014050	.001950	.....	.....	
13,200	66,000	.015700	.001650	.....	.....	
13,600	68,000	.018000	.002300	.....	.....	
14,000	70,000	.020500	.002500	.....	.....	
14,400	72,000	.022500	.002000	.....	.....	
14,800	74,000	.024950	.002450	.....	.....	
15,200	76,000	.027750	.002800	.....	.....	
15,600	78,000	.030150	.002400	.....	.....	
16,000	80,000	.034150	.004000	.....	.....	
16,400	82,000	.037700	.003550	.....	.....	
16,800	84,000	.041850	.004150	.....	.....	
17,200	86,000	.047000	.005150	.....	.....	
17,600	88,000	.053500	.006500	.....	.....	
18,000	90,000	.060600	.007100	.....	.....	
18,400	92,000	.0700	.0094	.....	.....	
18,800	94,000	.0950	.0250	.....	.....	
18,850	94,250	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,250
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch...	0.1050
Elongation per inch under strain at elastic limit	do...	.001550
Reduction in diameter at point of rupture	do...	.035
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		½ inch from neck
Character of broken surface		granular; line of dull-colored metal across broken surface
Elongation of inch sections		″,12*, ″.09

[Additional specimens.]

No. 2396.

Marks, $^{32}_{M}\,J_{T,M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	.....	.....	
8,000	40,000	.001350	.000200	.....	.....	
9,000	45,000	.001550	.000200	.....	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001650	.000050	.....	.....	
9,600	48,000	.001650	0.	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	
10,000	50,000	.001800	.000100	.....	.....	
10,200	51,000	.001900	.000100	.....	.....	Elastic limit.
10,400	52,000	.002100	.000200	.....	.....	
10,600	53,000	.002550	.000450	.....	.....	
10,800	54,000	.003100	.000550	.....	.....	
11,000	55,000	.004050	.000950	.....	.....	
11,200	56,000	.004850	.000800	.....	.....	
11,400	57,000	.005650	.000800	.....	.....	
11,600	58,000	.006300	.000650	.....	.....	
11,800	59,000	.007150	.000850	.....	.....	
12,000	60,000	.008100	.000950	.....	.....	
12,400	62,000	.009750	.001650	.....	.....	
12,800	64,000	.011650	.001900	.....	.....	
13,200	66,000	.013500	.001850	.....	.....	
13,600	68,000	.015100	.001600	.....	.....	
14,000	70,000	.017100	.002000	.....	.....	
14,400	72,000	.019100	.002000	.....	.....	
14,800	74,000	.020750	.001650	.....	.....	
15,200	76,000	.022650	.001900	.....	.....	
15,600	78,000	.025100	.002450	.....	.....	
16,000	80,000	.027550	.002450	.....	.....	
16,400	82,000	.030250	.002700	.....	.....	
16,800	84,000	.033500	.003250	.....	.....	
17,200	86,000	.036500	.003000	.....	.....	
17,600	88,000	.041050	.004550	.....	.....	
18,000	90,000	.045500	.004450	.....	.....	
18,400	92,000	.0500	.0045	.....	.....	
18,800	94,000	.0600	.0100	.....	.....	
19,200	96,000	.0650	.0050	.....	.....	
19,600	98,000	.0800	.0150	.....	.....	
19,940	99,700	.1200	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,700
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		1".05 from neck
Character of broken surface		silky, interspersed with granular metal
Elongation of inch sections		".26, ".15

No. 2397.

Marks, $\frac{32\ J_2}{M\ T_3\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	.....	.....	
8,000	40,000	.001156	.000150	.....	.....	
9,000	45,000	.001400	.000250	.....	.....	
9,600	48,000	.001500	.000100	.....	.....	
9,800	49,000	.001600	.000100	.....	.....	Elastic limit.
10,000	50,000	.002000	.000400	.....	.....	
10,200	51,000	.002450	.000450	.....	.....	
10,400	52,000	.003200	.000750	.....	.....	
10,600	53,000	.004200	.001000	.....	.....	
10,800	54,000	.005150	.000950	.....	.....	
11,000	55,000	.005950	.000800	.....	.....	
11,200	56,000	.006700	.000750	.....	.....	
11,400	57,000	.007700	.001000	.....	.....	
11,600	58,000	.008600	.000900	.....	.....	
11,800	59,000	.009150	.000550	.....	.....	
12,000	60,000	.010100	.000950	.....	.....	
12,400	62,000	.012100	.002000	.....	.....	
12,800	64,000	.014100	.002000	.....	.....	
13,200	66,000	.016250	.002150	.....	.....	
13,600	68,000	.018100	.001850	.....	.....	
14,000	70,000	.019750	.001650	.....	.....	
14,400	72,000	.021600	.001850	.....	.....	
14,800	74,000	.024000	.002400	.....	.....	
15,200	76,000	.026550	.002550	.....	.....	
15,600	78,000	.029500	.002950	.....	.....	
16,000	80,000	.033000	.003500	.....	.....	
16,400	82,000	.036700	.003700	.....	.....	
16,800	84,000	.040000	.003300	.....	.....	
17,200	86,000	.043750	.003750	.....	.....	
17,600	88,000	.049000	.005250	.....	.....	
18,000	90,000	.0550	.0060	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0800	.0150	.....	.....	
19,200	96,000	.1050	.0250	.....	.....	
19,280	96,400	.1300	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,400
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.0016+0
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".70 from neck
Character of broken surface		silky, with traces of granulation
Elongation of inch sections		".31", ".13

No. 2398.

Marks, $\frac{32\,J_2}{M\ T_2\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000400	.000200	0.	.....	
3,000	15,000	.000600	.000200	0.	.....	
4,000	20,000	.000750	.000150	0.	.....	
5,000	25,000	.000900	.000150	0.	.....	
6,000	30,000	.001100	.000200	0.	.....	
7,000	35,000	.001250	.000150	.....	.....	
8,000	40,000	.001400	.000150	.....	.....	
9,000	45,000	.001600	.000200	.....	.....	
9,200	46,000	.001650	.000050	.....	.....	
9,400	47,000	.001650	0.	.....	.....	
9,600	48,000	.001700	.000050	.....	.....	
9,800	49,000	.001800	.000100	.....	.....	Elastic limit.
10,000	50,000	.002150	.000350	.....	.....	
10,200	51,000	.003300	.001150	.....	.....	
10,400	52,000	.003700	.000400	.....	.....	
10,600	53,000	.004650	.000950	.....	.....	
10,800	54,000	.005500	.000850	.....	.....	
11,000	55,000	.006250	.000750	.....	.....	
11,200	56,000	.007100	.000850	.....	.....	
11,400	57,000	.008100	.001000	.....	.....	
11,600	58,000	.008750	.000650	.....	.....	
11,800	59,000	.009600	.000850	.....	.....	
12,000	60,000	.010400	.000800	.....	.....	
12,400	62,000	.012500	.002100	.....	.....	
12,800	64,000	.014350	.001850	.....	.....	
13,200	66,000	.016050	.001700	.....	.....	
13,600	68,000	.018250	.002200	.....	.....	
14,000	70,000	.020250	.002000	.....	.....	
14,400	72,000	.022500	.002250	.....	.....	
14,800	74,000	.025000	.002500	.....	.....	
15,200	76,000	.027250	.002250	.....	.....	
15,600	78,000	.030000	.002750	.....	.....	
16,000	80,000	.033500	.003500	.....	.....	
16,400	82,000	.037100	.003600	.....	.....	
16,800	84,000	.040850	.003750	.....	.....	
17,200	86,000	.046500	.005650	.....	.....	
17,600	88,000	.052500	.006000	.....	.....	
18,000	90,000	.0600	.0075	.....	.....	
18,400	92,000	.0650	.0050	.....	.....	
18,800	94,000	.0850	.0200	.....	.....	
19,050	95,250	.1150	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,250
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.1450
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.055
Reduction in area after rupture, per centum of original section		20.5
Position of rupture		".80 from neck
Character of broken surface		granular, with line of flaky metal
Elongation of inch sections		".18", ".11

No. 966.

Marks, $\frac{32\ J}{M\ T_1\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.	.....	
2,000	10,000	.000150	.000100	0.	.....	
3,000	15,000	.000300	.000150	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000550	.000100	0.	.....	
6,000	30,000	.000650	.000100	0.	.....	
7,000	35,000	.000850	.000200	0.	.....	
8,000	40,000	.001000	.000150	0.	.....	
8,800	44,000	.001200	.000200	.....	.....	
9,200	46,000	.001250	.000050	.....	.....	
9,600	48,000	.001300	.000050	.....	.....	
10,000	50,000	.001350	.000050	0.	.....	
10,400	52,000	.001450	.000100	.....	.....	
10,800	54,000	.001550	.000100	.....	.....	
11,200	56,000	.001600	.000050	.....	.....	
11,600	58,000	.001750	.000150	.....	.....	
11,800	59,000	.001800	.000050	.....	.....	Elastic limit.
12,000	60,000	.002000	.000200	.000100	.000100	
12,200	61,000	.002250	.000250	.....	.....	
12,400	62,000	.002550	.000300	.....	.....	
12,600	63,000	.003250	.000700	.....	.....	
12,800	64,000	.004000	.000750	.....	.....	
13,600	68,000	.007750	.003750	.....	.....	
14,400	72,000	.012250	.004500	.....	.....	
15,200	76,000	.015750	.003500	.....	.....	
16,000	80,000	.019750	.004000	.....	.....	
16,800	84,000	.024500	.004750	.....	.....	
17,600	88,000	.030150	.005650	.....	.....	
18,400	92,000	.036750	.006600	.....	.....	
19,200	96,000	.045000	.008250	.....	.....	
20,000	100,000	.0600	.0150	.....	.....	
20,800	104,000	.0950	.0350	.....	.....	
20,820	104,100	.1000	.0050	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8666
Tensile strength per square inch of original section	pounds..	104,100
Elastic limit per square inch of original section	do...	59,000
Elongation per inch after rupture	inch..	0.1050
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.035
Reduction in area after rupture, per centum of original section		13.5
Position of rupture		″.45 from neck
Character of broken surface	granular; line of silky metal near circumference	
Elongation of inch sections		″.12″, ″.09

No. 967.

Marks, $\frac{32\ J_4}{M\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.	.....	
2,000	10,000	.000100	.000050	0.	.....	
3,000	15,000	.000300	.000200	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000600	.000150	0.	.....	
6,000	30,000	.000800	.000200	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
8,800	44,000	.001350	.000150	.....	.....	
9,200	46,000	.001500	.000150	.....	.....	
9,600	48,000	.001550	.000050	.....	.....	
10,000	50,000	.001650	.000100	0.	.....	
10,400	52,000	.001750	.000100	.....	.....	Elastic limit.
10,800	54,000	.001950	.000200	.....	.....	
11,200	56,000	.002100	.000150	.....	.....	
11,600	58,000	.002350	.000250	.....	.....	
12,000	60,000	.002900	.000550	.000750	.000750	
12,400	62,000	.003850	.000950	.....	.....	
12,800	64,000	.005500	.001650	.....	.....	
13,600	68,000	.008900	.003400	.....	.....	
14,400	72,000	.013000	.004100	.....	.....	
15,200	76,000	.017750	.004750	.....	.....	
16,000	80,000	.021750	.004000	.....	.....	
16,800	84,000	.025000	.003250	.....	.....	
17,600	88,000	.029600	.004600	.....	.....	
18,400	92,000	.031650	.002050	.....	.....	
19,200	96,000	.039500	.007850	.....	.....	
20,040	100,000	.0650	.0255	.....	.....	
20,800	104,000	.1050	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	104,000
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.045
Reduction in area after rupture, per centum of original section		17
Position of rupture		at middle of stem

Character of broken surface, granular, radiating from a line of silky metal, which extends from the circumference to the center.
Elongation of inch sections ″.13, ″.23*

No. 2086.

Marks, $\frac{32\ J_4}{M\ T_5\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001150	.000250	0.	.....	
8,000	40,000	.001250	.000100	0.	.....	
9,000	45,000	.001400	.000150	0.	.....	
9,200	46,000	.001400	0.	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001550	.000100	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	
10,000	50,000	.001650	.000050	.....	.....	Elastic limit.
10,200	51,000	.001900	.000250	.....	.....	
10,400	52,000	.004350	.002450	.....	.....	
10,600	53,000	.005700	.001350	.....	.....	
10,800	54,000	.006700	.001000	.....	.....	
11,000	55,000	.007700	.001000	.....	.....	
11,200	56,000	.008600	.000900	.....	.....	
11,400	57,000	.009350	.000750	.....	.....	
11,600	58,000	.010150	.000800	.....	.....	
11,800	59,000	.011150	.001000	.....	.....	
12,000	60,000	.012150	.001000	.....	.....	
12,400	62,000	.014050	.001900	.....	.....	
12,800	64,000	.015950	.001900	.....	.....	
13,200	66,000	.018050	.002100	.....	.....	
13,600	68,000	.020600	.002550	.....	.....	
14,000	70,000	.023000	.002400	.....	.....	
14,400	72,000	.025500	.002500	.....	.....	
14,800	74,000	.028750	.003250	.....	.....	
15,200	76,000	.032500	.003750	.....	.....	
15,600	78,000	.035650	.003150	.....	.....	
16,000	80,000	.039550	.003900	.....	.....	
16,400	82,000	.044550	.005000	.....	.....	
16,800	84,000	.050000	.005450	.....	.....	
17,200	86,000	.057500	.007500	.....	.....	
17,600	88,000	.0650	.0075	.....	.....	
18,000	90,000	.0850	.0200	.....	.....	
18,380	91,900	.1350	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,900
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		".55 from neck
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		".28", ".13

No. 2087.

Marks, $\frac{32\ J_4}{M\ T_6\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000650	.000200	0.	.....	
6,000	30,000	.000850	.000200	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001400	.000250	0.	.....	
9,200	46,000	.001400	0.	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001500	.000050	.....	.....	
9,800	49,000	.001550	.000050	.....	.....	
10,000	50,000	.001650	.000100	.000050	.000050	Elastic limit.
10,200	51,000	.001850	.000200	.....	.....	
10,400	52,000	.004000	.002150	.....	.....	
10,600	53,000	.005650	.001650	.....	.....	
10,800	54,000	.006600	.000950	.....	.....	
11,000	55,000	.007500	.000900	.....	.....	
11,200	56,000	.008200	.000700	.....	.....	
11,400	57,000	.008900	.000700	.....	.....	
11,600	58,000	.009750	.000850	.....	.....	
11,800	59,000	.010600	.000850	.....	.....	
12,000	60,000	.011350	.000750	.....	.....	
12,400	62,000	.013500	.002150	.....	.....	
12,800	64,000	.015050	.001550	.....	.....	
13,200	66,000	.017450	.002400	.....	.....	
13,600	68,000	.019550	.002100	.....	.....	
14,000	70,000	.022000	.002450	.....	.....	
14,400	72,000	.024750	.002750	.....	.....	
14,800	74,000	.027500	.002750	.....	.....	
15,200	76,000	.030250	.002750	.....	.....	
15,600	78,000	.033500	.003250	.....	.....	
16,000	80,000	.037250	.003750	.....	.....	
16,400	82,000	.041500	.004250	.....	.....	
16,800	84,000	.046500	.005000	.....	.....	
17,200	86,000	.052500	.006000	.....	.....	
17,600	88,000	.060000	.007500	.....	.....	
18,000	90,000	.0700	.0100	.....	.....	
18,400	92,000	.0900	.0200	.....	.....	
18,670	93,350	.1350	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,350
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		″.05 from middle of stem
Character of broken surface		granular; dull spot near circumference
Elongation of inch sections		″.28*, ″.17

No. 988.

Marks, $\frac{32\ J_5}{M\ T_1\ M}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000550	.000100	0.	.....	
6,000	30,000	.000700	.000150	0.	.....	
7,000	35,000	.000850	.000150	0.	.....	
8,000	40,000	.001050	.000200	0.	.....	
9,000	45,000	.001200	.000150	0.	.....	
10,000	50,000	.001400	.000200	0.	.....	
11,000	55,000	.001600	.000200	0.	.....	
11,200	56,000	.001650	.000050	.....	.....	Elastic limit.
11,400	57,000	.001950	.000300	.....	.....	
11,600	58,000	.002600	.000650	.....	.....	
11,800	59,000	.003500	.000900	.....	.....	
12,000	60,000	.004450	.000950	.002500	.002500	
12,400	62,000	.006300	.001850	.....	.....	
12,800	64,000	.0080	.0017	.....	.....	
13,200	66,000	.0100	.0020	.....	.....	
13,600	68,000	.0115	.0015	.....	.....	
14,000	70,000	.0125	.0010	.....	.....	
14,400	72,000	.0140	.0015	.....	.....	
14,800	74,000	.0160	.0020	.....	.....	
15,200	76,000	.0175	.0015	.....	.....	
15,600	78,000	.0200	.0025	.....	.....	
16,000	80,000	.0220	.0020	.....	.....	
16,400	82,000	.0240	.0020	.....	.....	
16,800	84,000	.0265	.0025	.....	.....	
17,200	86,000	.0290	.0025	.....	.....	
17,600	88,000	.0315	.0025	.....	.....	
18,000	90,000	.0350	.0035	.....	.....	
18,400	92,000	.0380	.0030	.....	.....	
18,600	93,000	.0405	.0025	.....	.....	
19,200	96,000	.0525	.0120	.....	.....	
19,600	98,000	.0700	.0175	.....	.....	
20,000	100,000	.1000	.0300	.....	.....	
20,180	100,900	.1250	.0250	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8750
Tensile strength per square inch of original section	pounds	100,900
Elastic limit per square inch of original section	do	56,000
Elongation per inch after rupture	inch	0.1950
Elongation per inch under strain at elastic limit	do	.001650
Reduction in diameter at point of rupture	do	.104
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		″.50 from middle of stem
Character of broken surface		granular; dull silky center
Elongation of inch sections		″.28*, ″.11

No. 989.

Marks, $\frac{32\ J.}{M\ T_2\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.	.....	
2,000	10,000	.000200	.000150	0.	.....	
3,000	15,000	.000500	.000300	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001050	.000200	.000050	.000050	
7,000	35,000	.001200	.000150	.000050	0.	
8,000	40,000	.001400	.000200	.000100	.000050	
9,000	45,000	.001600	.000200	.000100	0.	
10,000	50,000	.001850	.000250	.000100	0.	
11,000	55,000	.002000	.000150	.000100	0.	
11,200	56,000	.002050	.000050	.....	.....	Elastic limit.
11,400	57,000	.002750	.000700	.....	.....	
11,600	58,000	.003500	.000750	.....	.....	
11,800	59,000	.004550	.001050	.....	.....	
12,000	60,000	.005250	.000700	.002900	.002800	
12,400	62,000	.0070	.001750	.....	.....	
12,800	64,000	.0085	.0015	.....	.....	
13,200	66,000	.0110	.0025	.....	.....	
13,600	68,000	.0125	.0015	.....	.....	
14,000	70,000	.0145	.0020	.....	.....	
14,400	72,000	.0170	.0023	.....	.....	
14,800	74,000	.0195	.0025	.....	.....	
15,200	76,000	.0220	.0025	.....	.....	
15,600	78,000	.0245	.0025	.....	.....	
16,000	80,000	.0285	.0040	.....	.....	
16,400	82,000	.0310	.0025	.....	.....	
16,800	84,000	.0340	.0030	.....	.....	
17,200	86,000	.0380	.0040	.....	.....	
17,600	88,000	.0420	.0040	.....	.....	
18,000	90,000	.0450	.0030	.....	.....	
18,400	92,000	.0490	.0040	.....	.....	
18,800	94,000	.0565	.0075	.....	.....	
19,200	96,000	.0600	.0035	.....	.....	
19,600	98,000	.0750	.0150	.....	.....	
20,000	100,000	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,000
Elastic limit per square inch of original section	do....	56,000
Elongation per inch after rupture	inch..	0.1350
Elongation per inch under strain at elastic limit	do....	.002050
Reduction in diameter at point of rupture	do....	.055
Reduction in area after rupture, per centum of original section		20.5
Position of rupture		½ inch from middle of stem
Character of broken surface		granular; line of dull-colored metal extends across the broken surface
Elongation of inch sections		".17", ".10

No. 530.

Marks, $\frac{32\,J}{M\,T,M}$
Length, 4″.50.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000850	.000100	0.	.....	
17,500	35,000	.001000	.000150	0.	.....	
20,000	40,000	.001150	.000150	0.	.....	
22,500	45,000	.001300	.000150	0.	.....	
25,000	50,000	.001550	.000250	0.	.....	
25,500	51,000	.001600	.000050	.....	.....	
26,000	52,000	.001800	.000200	.....	.....	
26,500	53,000	.001850	.000050	.....	.....	
27,000	54,000	.001900	.000050	.....	.....	Elastic limit.
27,500	55,000	.002050	.000150	.000300	.000300	
28,000	56,000	.002600	.000550	.....	.....	
28,500	57,000	.003450	.000850	.....	.....	
29,000	58,000	.004250	.000800	.....	.....	
29,500	59,000	.005850	.001600	.....	.....	
30,000	60,000	.007500	.001650	.005150	.004850	
49,650	99,300	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.001900
Ultimate strength per square inch of original section	pounds..	99,300
Manner of failure		triple flexure

NEW JACKET NO. 5.

No. 2262.

Marks, $\frac{32\ J_5}{B\ T_4\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
10,000	50,000	.001600	.000150	0.	.....	
10,200	51,000	.001600	0.	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001800	.000100	.....	.....	
11,000	55,000	.001850	.000050	.....	.....	Elastic limit.
11,200	56,000	.008250	.006400	.....	.....	
11,400	57,000	.008950	.000700	.....	.....	
11,600	58,000	.009900	.000950	.....	.....	
11,800	59,000	.010700	.000800	.....	.....	
12,000	60,000	.011250	.000550	.....	.....	
12,400	62,000	.013000	.001750	.....	.....	
12,800	64,000	.015100	.002100	.....	.....	
13,200	66,000	.017050	.001950	.....	.....	
13,600	68,000	.018750	.001700	.....	.....	
14,000	70,000	.021150	.002400	.....	.....	
14,400	72,000	.023250	.002100	.....	.....	
14,800	74,000	.025650	.002400	.....	.....	
15,200	76,000	.028700	.003050	.....	.....	
15,600	78,000	.031250	.002550	.....	.....	
16,000	80,000	.034750	.003500	.....	.....	
16,400	82,000	.038250	.003500	.....	.....	
16,800	84,000	.043050	.004800	.....	.....	
17,200	86,000	.048250	.005200	.....	.....	
17,600	88,000	.054000	.005750	.....	.....	
18,000	90,000	.0650	.0110	.....	.....	
18,400	92,000	.0750	.0100	.....	.....	
18,800	94,000	.0950	.0200	.....	.....	
19,160	95,800	.1450	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,800
Elastic limit per square inch of original section	do....	55,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		".05 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".28*, ".22

No. 2263.

Marks, $_{B}{}^{32}T_{5}^{J}{}_{M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001550	.000200	0.	.....	
10,000	50,000	.001750	.000200	0.	.....	
10,200	51,000	.001800	.000050	.....	.....	
10,400	52,000	.001850	.000050	.....	.....	
10,600	53,000	.001900	.000050	.....	.....	
10,800	54,000	.002000	.000100	.....	.....	
11,000	55,000	.002050	.000050	.....	.....	
11,200	56,000	.002100	.000050	.....	.....	
11,400	57,000	.002100	0.	.....	.....	
11,600	58,000	.002200	.000100	.....	.....	
11,800	59,000	.002250	.000050	.....	.....	
12,000	60,000	.002250	0.	.....	.....	Elastic limit.
12,200	61,000	.002400	.000150	.....	.....	
12,400	62,000	.002900	.002600	.....	.....	
12,600	63,000	.003550	.000550	.....	.....	
12,800	64,000	.004250	.000700	.....	.....	
13,000	65,000	.005100	.000850	.....	.....	
13,200	66,000	.006000	.000900	.....	.....	
13,400	67,000	.006850	.000850	.....	.....	
13,600	68,000	.007600	.000750	.....	.....	
13,800	69,000	.008550	.000950	.....	.....	
14,000	70,000	.009500	.000950	.....	.....	
14,400	72,000	.011150	.001650	.....	.....	
14,800	74,000	.013150	.002000	.....	.....	
15,200	76,000	.015150	.002000	.....	.....	
15,600	78,000	.017150	.002000	.....	.....	
16,000	80,000	.019300	.002150	.....	.....	
16,400	82,000	.021250	.002950	.....	.....	
16,800	84,000	.024150	.002900	.....	.....	
17,200	86,000	.027500	.003350	.....	.....	
17,600	88,000	.030250	.002750	.....	.....	
18,000	90,000	.034000	.003750	.....	.....	
18,400	92,000	.038050	.004050	.....	.....	
18,800	94,000	.043000	.004950	.....	.....	
19,200	96,000	.0480	.0050	.....	.....	
19,600	98,000	.0530	.0050	.....	.....	
20,000	100,000	.0580	.0050	.....	.....	
20,330	101,650	.1400	.0820	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	101,650
Elastic limit per square inch of original section	do....	60,000
Elongation per inch after rupture	inch..	.02050
Elongation per inch under strain at elastic limit	do....	.002250
Reduction in diameter at point of rupture	do....	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		″.95 from neck
Character of broken surface	granular; radiating from a dull spot at circumference	
Elongation of inch sections		″.19, ″.23

No. 633.

Marks, $^{32\ J_3}_{B\ T_s\ M}$
Length, 4″.505.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000200	.000200	0.	.....	
5,000	10,000	.000400	.000200	0.	.....	
7,500	15,000	.000567	.000167	0.	.....	
10,000	20,000	.000733	.000166	0.	.....	
12,500	25,000	.000900	.000167	0.	.....	
15,000	30,000	.001067	.000167	0.	.....	
17,500	35,000	.001267	.000200	0.	.....	
20,000	40,000	.001433	.000166	0.	.....	
22,500	45,000	.001600	.000167	0.	.....	
23,000	46,000	.001633	.000033	.....	.....	
23,500	47,000	.001667	.000034	.....	.....	
24,000	48,000	.001700	.000033	.....	.....	
24,500	49,000	.001767	.000067	.....	.....	
25,000	50,000	.001800	.000033	0.	.....	
25,500	51,000	.001833	.000033	.....	.....	
26,000	52,000	.001933	.000100	.....	.....	
26,500	53,000	.001967	.000034	.....	.....	
27,000	54,000	.002 00	.000033	.....	.....	
27,500	55,000	.002100	.000100	.000033	.000033	Elastic limit.
28,000	56,000	.002233	.000133	.....	.....	
28,500	57,000	.002633	.000400	.....	.....	
29,000	58,000	.007500	.004867	.....	.....	
29,500	59,000	.008133	.000633	.....	.....	
30,000	60,000	.008333	.000200	.....	.....	
50,000	100,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	55,000
Compression per inch under stress at elastic limit	inch..	0.002100
Ultimate strength per square inch of original section	pounds..	100,000
Manner of failure		triple flexure

Marks, $\overset{32\ J_6}{M\ T_1\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000500	.000100	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001100	.000150	0.	.....	
9,000	45,000	.001200	.000100	.....	.....	
9,200	46,000	.001250	.000050	.....	.....	
9,400	47,000	.001350	.000100	.....	.....	
9,600	48,000	.001400	.000050	.....	.....	Elastic limit.
9,800	49,000	.001550	.000150	.....	.....	
10,000	50,000	.001750	.000200	.000250	.000250	
10,200	51,000	.002150	.000400	.....	.....	
10,400	52,000	.002700	.000515	.....	.....	
10,600	53,000	.003350	.000650	.....	.....	
10,800	54,000	.004050	.000700	.....	.....	
11,000	55,000	.005200	.001150	.003200	.002950	
11,200	56,000	.006200	.001000	.....	.....	
11,400	57,000	.006700	.000500	.....	.....	
11,600	58,000	.007350	.000650	.....	.....	
11,800	59,000	.008400	.001050	.....	.....	
12,000	60,000	.009400	.001000	.007350	.004150	
12,400	62,000	.011350	.001950	.....	.....	
12,800	64,000	.013200	.001850	.....	.....	
13,200	66,000	.015350	.002150	.....	.....	
13,600	68,000	.018400	.003050	.....	.....	
14,000	70,000	.019500	.001100	.....	.....	
14,400	72,000	.022000	.002500	.....	.....	
14,800	74,000	.024500	.002500	.....	.....	
15,200	76,000	.027500	.003000	.....	.....	
15,600	78,000	.030250	.002750	.....	.....	
16,000	80,000	.033750	.003500	.....	.....	
16,400	82,000	.038000	.004250	.....	.....	
16,800	84,000	.042450	.004450	.....	.....	
17,200	86,000	.046900	.004450	.....	.....	
17,600	88,000	.053000	.006100	.....	.....	
18,000	90,000	.064550	.011550	.....	.....	
18,400	92,000	.0750	.010450	.....	.....	
18,890	94,450	.1200	.0450	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8593
Tensile strength per square inch of original section	pounds	94,450
Elastic limit per square inch of original section	do	48,000
Elongation per inch after rupture	inch	0.2100
Elongation per inch under strain at elastic limit	do	.001400
Reduction in diameter at point of rupture	do	.125
Reduction in area after rupture, per centum of original section		43.2
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".22*, ".20*

No. 1102.

Marks, $\frac{32\ J_6}{M\ T_2\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	
9,600	48,000	.001700	.000100	.....	.....	Elastic limit.
9,800	49,000	.001950	.000250	.....	.....	
10,000	50,000	.002800	.000850	.000850	.000850	
10,200	51,000	.003100	.000300	.....	.....	
10,400	52,000	.003900	.000800	.....	.....	
10,600	53,000	.004250	.000350	.....	.....	
10,800	54,000	.005100	.000850	.....	.....	
11,000	55,000	.006550	.001450	.004450	.003600	
11,200	56,000	.006900	.000350	.....	.....	
11,400	57,000	.007300	.000400	.....	.....	
11,600	58,000	.008250	.000950	.....	.....	
11,800	59,000	.009550	.001300	.....	.....	
12,000	60,000	.010250	.000700	.007900	.003450	
12,400	62,000	.012750	.002500	.....	.....	
12,800	64,000	.014250	.001500	.....	.....	
13,200	66,000	.015600	.001350	.....	.....	
13,600	68,000	.018000	.002400	.....	.....	
14,000	70,000	.021600	.003600	.....	.....	
14,400	72,000	.022750	.001150	.....	.....	
14,800	74,000	.025000	.002250	.....	.....	
15,200	76,000	.028000	.003000	.....	.....	
15,600	78,000	.031150	.003150	.....	.....	
16,000	80,000	.034500	.003350	.....	.....	
16,400	82,000	.037900	.003400	.....	.....	
16,800	84,000	.042000	.004100	.....	.....	
17,200	86,000	.048000	.006000	.....	.....	
17,600	88,000	.053750	.005750	.....	.....	
18,000	90,000	.062550	.008800	.....	.....	
18,400	92,000	.0750	.002450	.....	.....	
18,950	94,750	.1450	.0700	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,750
Elastic limit per square inch of original section	do....	48,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".65 from neck
Character of broken surface		silky; interspersed with granular metal
Elongation of inch sections		".32* ".11

No. 537.

Marks, $\frac{32\ J_6}{M\ T_2\ M}$
Length, 4″.50.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001050	.000150	0.	.....	
20,000	40,000	.001200	.000150	0.	.....	
22,500	45,000	.001350	.000150	0.	.....	
25,000	50,000	.001500	.000150	.....	.....	Elastic limit.
25,500	51,000	.001600	.000100	.....	.....	
26,000	52,000	.001900	.000300	.....	.....	
26,500	53,000	.002350	.000450	.....	.....	
27,000	54,000	.003100	.000750	.....	.....	
27,500	55,000	.003600	.000500	.001800	.001800	
28,000	56,000	.004300	.000700	.....	.....	
28,500	57,000	.004800	.000500	.....	.....	
29,000	58,000	.005800	.001000	.....	.....	
29,500	59,000	.006550	.000750	.....	.....	
30,000	60,000	.007300	.000750	.005350	.003550	
47,600	95,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds..	95,200
Manner of failure		triple flexure

No. 1110.

Marks, $\frac{32\ J,}{M\ T,\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000400	.000200	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001400	.000250	0.	.....	
9,000	45,000	.001550	.000150	.....	.....	
9,200	46,000	.001650	.000100	.....	.....	Elastic limit.
9,400	47,000	.002000	.000350	.....	.....	
9,600	48,000	.002800	.000800	.....	.....	
9,800	49,000	.003350	.000550	.....	.....	
10,000	50,000	.003850	.000500	.001950	.001950	
10,200	51,000	.004350	.000500	.....	.....	
10,400	52,000	.005150	.000800	.....	.....	
10,600	53,000	.005750	.000600	.....	.....	
10,800	54,000	.007000	.001250	.....	.....	
11,000	55,000	.007750	.000750	.003700	.003750	
11,200	56,000	.008550	.000800	.....	.....	
11,400	57,000	.009100	.000550	.....	.....	
11,600	58,000	.009600	.000500	.....	.....	
11,800	59,000	.010700	.001100	.....	.....	
12,000	60,000	.011850	.001150	.005600	.005900	
12,400	62,000	.013650	.001800	.....	.....	
12,800	64,000	.015300	.001650	.....	.....	
13,200	66,000	.017500	.002200	.....	.....	
13,600	68,000	.019900	.002400	.....	.....	
14,000	70,000	.022250	.002350	.....	.....	
14,400	72,000	.024900	.002650	.....	.....	
14,800	74,000	.027250	.002350	.....	.....	
15,200	76,000	.029700	.002450	.....	.....	
15,600	78,000	.033000	.003300	.....	.....	
16,000	80,000	.036200	.003200	.....	.....	
16,400	82,000	.041150	.004950	.....	.....	
16,800	84,000	.046750	.005600	.....	.....	
17,200	86,000	.053000	.006250	.....	.....	
17,600	88,000	.0600	.0070	.....	.....	
18,000	90,000	.0700	.0100	.....	.....	
18,400	92,000	.0950	.0250	.....	.....	
18,610	93,050	.1300	.0350	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8671
Tensile strength per square inch of original section	pounds	93,050
Elastic limit per square inch of original section	do	46,000
Elongation per inch after rupture	inch	0.2150
Elongation per inch under strain at elastic limit	do	.001650
Reduction in diameter at point of ruptnre	do	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		″.45 from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.34*,″.09

No. 1111.

Marks, $\frac{32\ J}{M\ T, M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000300	.000200	0.		
3,000	15,000	.000500	.000200	0.		
4,000	20,000	.000700	.000200	0.		
5,000	25,000	.000900	.000200	0.		
6,000	30,000	.001100	.000200	0.		
7,000	35,000	.001250	.000150	.000050	.000050	
8,000	40,000	.001450	.000200	.000100	.000050	
8,200	41,000	.001500	.000050			
8,400	42,000	.001550	.000050			
8,600	43,000	.001600	.000050			
8,800	44,000	.001650	.000050			
9,000	45,000	.001750	.000100	.000150	.000050	Elastic limit.
9,200	46,000	.002000	.000250			
9,400	47,000	.002450	.000450			
9,600	48,000	.003100	.000650			
9,800	49,000	.003750	.000650			
10,000	50,000	.004500	.000750	.002700	.002550	
10,200	51,000	.005400	.000900			
10,400	52,000	.006300	.000900			
10,600	53,000	.006800	.000500			
10,800	54,000	.007700	.000900			
11,000	55,000	.008800	.001100	.006700	.004000	
11,200	56,000	.009250	.000450			
11,400	57,000	.010500	.001250			
11,600	58,000	.011950	.001450			
11,800	59,000	.012500	.000550			
12,000	60,000	.013800	.001300	.011400	.004700	
12,400	62,000	.015300	.001500			
12,800	64,000	.017700	.002400			
13,200	66,000	.020500	.002800			
13,600	68,000	.022950	.002450			
14,000	70,000	.025400	.002450			
14,400	72,000	.028000	.002600			
14,800	74,000	.036250	.008250			
15,200	76,000	.037950	.001700			
15,600	78,000	.039000	.001050			
16,000	80,000	.043050	.004050			
16,400	82,000	.050600	.007550			
16,800	84,000	.0550	.0044			
17,200	86,000	.0600	.0050			
17,600	88,000	.0750	.0150			
18,000	90,000	.1000	.0250			
18,100	90,500	.1600	.0600			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,500
Elastic limit per square inch of original section	do....	45,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do....	.001750
Reduction in diameter at point of rupture	do....	.085
Reduction in area after rupture, per centum of original section		20.7
Position of rupture		½ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		".29", ".18

No. 541.

Marks, $\frac{32\ J,}{M\ T_3\ M}$
Length, 4″.49.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000650	.000150	0.	.....	
12,500	25,000	.000800	.000150	0.	.....	
15,000	30,000	.001000	.000200	0.	.....	
17,500	35,000	.001150	.000150	0.	.....	
20,000	40,000	.001350	.000200	0.	.....	
22,500	45,000	.001550	.000200	0.	.....	
24,000	48,000	.001600	.000050	.....	.....	Elastic limit.
24,500	49,000	.002500	.000900	.....	.....	
25,000	50,000	.003550	.001050	.001900	.001900	
25,500	51,000	.004800	.001250	.....	.....	
26,000	52,000	.005800	.001000	.....	.....	
26,500	53,000	.007050	.001250	.....	.....	
27,000	54,000	.008150	.001100	.....	.....	
27,500	55,000	.009350	.001200	.....	.....	
46,100	96,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	48,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds..	96,200
Manner of failure		triple flexure

[Additional specimens.]

No. 2221.

Marks, $\frac{32\ J}{B\ T_4\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001400	.000200	0.	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	Elastic limit.
9,600	48,000	.001800	.000300	.....	.....	
9,800	49,000	.003850	.002050	.....	.....	
10,000	50,000	.004200	.000350	.....	.....	
10,200	51,000	.005000	.000800	.....	.....	
10,400	52,000	.005700	.000700	.....	.....	
10,600	53,000	.006450	.000750	.....	.....	
10,800	54,000	.007350	.000900	.....	.....	
11,000	55,000	.008200	.000850	.....	.....	
11,200	56,000	.008900	.000700	.....	.....	
11,400	57,000	.009750	.000850	.....	.....	
11,600	58,000	.010350	.000600	.....	.....	
11,800	59,000	.011000	.000650	.....	.....	
12,000	60,000	.012000	.001000	.....	.....	
12,400	62,000	.013900	.001900	.....	.....	
12,800	64,000	.015750	.001850	.....	.....	
13,200	66,000	.018050	.002300	.....	.....	
13,600	68,000	.020250	.002200	.....	.....	
14,000	70,000	.022550	.002000	.....	.....	
14,400	72,000	.025150	.002600	.....	.....	
14,800	74,000	.028000	.002850	.....	.....	
15,200	76,000	.030600	.002600	.....	.....	
15,600	78,000	.033150	.002550	.....	.....	
16,000	80,000	.036700	.003550	.....	.....	
16,400	82,000	.040600	.003900	.....	.....	
16,800	84,000	.045800	.005200	.....	.....	
17,200	86,000	.051250	.005450	.....	.....	
17,600	88,000	.059150	.007900	.....	.....	
18,000	90,000	.068000	.008850	.....	.....	
18,400	92,000	.0900	.0220	.....	.....	
18,690	93,450	.1150	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,450
Elastic limit per square inch of original section	do....	47,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001500
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".1 from middle of stem
Character of broken surface		silky; interspersed with fine granulation
Elongation of inch sections		".26*, ".17

No. 2222.

Marks, $\frac{32\ J}{B\ T_5\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch,	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000900	.000250	0.	.....	
6,000	30,000	.001100	.000200	0.	.....	
7,000	35,000	.001250	.000150	0.	.....	
8,000	40,000	.001400	.000150	0.	.....	
9,000	45,000	.001550	.000150	0.	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001650	.000050	.....	.....	
9,600	48,000	.001700	.000050	.....	.....	Elastic limit.
9,800	49,000	.002050	.000350	.....	.....	
10,000	50,000	.003050	.001000	.....	.....	
10,200	51,000	.003950	.000900	.....	.....	
10,400	52,000	.004450	.000500	.....	.....	
10,600	53,000	.005100	.000650	.....	.....	
10,800	54,000	.005850	.000750	.....	.....	
11,000	55,000	.006600	.000750	.....	.....	
11,200	56,000	.007450	.000850	.....	.....	
11,400	57,000	.008100	.000650	.....	.....	
11,600	58,000	.009000	.000900	.....	.....	
11,800	59,000	.009750	.000750	.....	.....	
12,000	60,000	.010450	.000700	.....	.....	
12,400	62,000	.012100	.001650	.....	.....	
12,800	64,000	.014000	.001900	.....	.....	
13,200	66,000	.015750	.001750	.....	.....	
13,600	68,000	.018000	.002250	.....	.....	
14,000	70,000	.020150	.002150	.....	.....	
14,400	72,000	.022300	.002150	.....	.....	
14,800	74,000	.024650	.002350	.....	.....	
15,200	76,000	.027250	.002600	.....	.....	
15,600	78,000	.029750	.002500	.....	.....	
16,000	80,000	.032700	.002950	.....	.....	
16,400	82,000	.036200	.003500	.....	.....	
16,800	84,000	.040000	.003800	.....	.....	
17,200	86,000	.044350	.004350	.....	.....	
17,600	88,000	.050000	.005750	.....	.....	
18,000	90,000	.057150	.007150	.....	.....	
18,400	92,000	.066500	.009350	.....	.....	
18,800	94,000	.0850	.0185	.....	.....	
19,160	95,800	.1200	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,800
Elastic limit per square inch of original section	do....	48,000
Elongation per inch after rupture	inch...	0.1500
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.065
Reduction in area after rupture, per centum of original section		20.5
Position of rupture		″.65 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.10, ″.20*

No. 2417.

Marks, $^{32\ J,}_{B\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000900	.000250	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001200	.000150	.....	.....	
8,000	40,000	.001300	.000100	.....	.....	
9,000	45,000	.001450	.000150	.....	.....	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	
10,000	50,000	.001700	.000050	.....	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	Elastic limit.
10,600	53,000	.002100	.000300	.....	.....	
10,800	54,000	.002500	.000400	.....	.....	
11,000	55,000	.002750	.000250	.....	.....	
11,200	56,000	.003100	.000350	.....	.....	
11,400	57,000	.003550	.000450	.....	.....	
11,600	58,000	.004000	.000450	.....	.....	
11,800	59,000	.004600	.000600	.....	.....	
12,000	60,000	.005350	.000750	.....	.....	
12,400	62,000	.006750	.001400	.....	.....	
12,800	64,000	.008000	.001250	.....	.....	
13,200	66,000	.009500	.001500	.....	.....	
13,600	68,000	.011250	.001750	.....	.....	
14,000	70,000	.012750	.001500	.....	.....	
14,400	72,000	.014500	.001750	.....	.....	
14,800	74,000	.015950	.001450	.....	.....	
15,200	76,000	.017950	.002000	.....	.....	
15,600	78,000	.019750	.001800	.....	.....	
16,000	80,000	.021600	.001850	.....	.....	
16,400	82,000	.024250	.002650	.....	.....	
16,800	84,000	.026350	.002100	.....	.....	
17,200	86,000	.028750	.002400	.....	.....	
17,600	88,000	.031450	.002700	.....	.....	
18,000	90,000	.034500	.003050	.....	.....	
18,400	92,000	.037700	.003200	.....	.....	
18,800	94,000	.041000	.003300	.....	.....	
19,200	96,000	.0450	.0040	.....	.....	
19,600	98,000	.0500	.0050	.....	.....	
20,000	100,000	.0550	.0050	.....	.....	
20,400	102,000	.0650	.0100	.....	.....	
20,800	104,000	.0850	.0200	.....	.....	
21,040	105,200	.1100	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	105,200
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1550
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		″.33 from neck
Character of broken surface		granular; dull center
Elongation of inch sections		″.22, ″.09

No. 651.

Marks, $_{B}{}^{32}T_{e}{}^{J}{}_{M}$
Length, 4".508.
Diameter, ".798.
Sectional area, 50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000233	.000133	0.	.....	
7,500	15,000	.000367	.000134	0.	.....	
10,000	20,000	.000567	.000200	0.	.....	
12,500	25,000	.000733	.000166	0.	.....	
15,000	30,000	.000933	.000200	.000067	.000067	
17,500	35,000	.001167	.000234	.000100	.000033	
20,000	40,000	.001400	.000233	.000167	.000067	
20,500	41,000	.001433	.000033	.....	.....	
21,000	42,000	.001467	.000034	.....	.....	
21,500	43,000	.001533	.000066	.....	.....	
22,000	44,000	.001600	.000067	.....	.....	
22,500	45,000	.001667	.000067	.....	.....	Elastic limit.
23,000	46,000	.001767	.000100	.....	.....	
23,500	47,000	.001933	.000166	.....	.....	
24,000	48,000	.002100	.000167	.....	.....	
24,500	49,000	.002267	.000167	.....	.....	
25,000	50,000	.002567	.000300	.....	.....	Rested under load 1 hour.
25,500	51,000	.003133	.000566	.....	.....	
26,000	52,000	.003733	.000600	.....	.....	
26,500	53,000	.004733	.001000	.....	.....	
27,000	54,000	.005500	.000767	.....	.....	
46,400	92,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	45,000
Compression per inch under stress at elastic limit	inch..	0.00166
Ultimate strength per square inch of original section	pounds..	92,800
Manner of failure		triple flexure

No. 1112.

Marks, $^{32\ J_8}_{B\ T,\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
9,200	46,000	.001550	.000100	.....	.....	Elastic limit.
9,400	47,000	.001900	.000350	.....	.....	
9,600	48,000	.004050	.002150	.....	.....	
9,800	49,000	.005100	.001050	.....	.....	
10,000	50,000	.005950	.000850	.004100	.004100	
10,200	51,000	.006350	.000400	.....	.....	
10,400	52,000	.006950	.000600	.....	.....	
10,600	53,000	.007800	.000850	.....	.....	
10,800	54,000	.008800	.001000	.....	.....	
11,000	55,000	.009750	.000950	.....	.....	
11,200	56,000	.010650	.000900	.....	.....	
11,400	57,000	.011750	.001100	.....	.....	
11,600	58,000	.012600	.000850	.....	.....	
11,800	59,000	.013300	.000700	.....	.....	
12,000	60,000	.014500	.001200	.....	.....	
12,400	62,000	.016250	.001750	.....	.....	
12,800	64,000	.018250	.002000	.....	.....	
13,200	66,000	.021250	.003000	.....	.....	
13,600	68,000	.023250	.002000	.....	.....	
14,000	70,000	.025700	.002450	.....	.....	
14,400	72,000	.028600	.002900	.....	.....	
14,800	74,000	.031700	.003100	.....	.....	
15,200	76,000	.035500	.003800	.....	.....	
15,600	78,000	.039000	.003500	.....	.....	
16,000	80,000	.044750	.005750	.....	.....	
16,400	82,000	.050000	.005250	.....	.....	
16,800	84,000	.056250	.006250	.....	.....	
17,200	86,000	.0650	.008750	.....	.....	
17,600	88,000	.0750	.0100	.....	.....	
18,000	90,000	.0950	.0200	.....	.....	
18,280	91,400	.1550	.0600	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8694
Tensile strength per square inch of original section	pounds..	91,400
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.2450
Elongation per inch under strain at elastic limit	do...	.001550
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		".1 from middle of stem
Character of broken surface	silky, 60 per centum; granular, 40 per centum	
Elongation of inch sections		".26", ".23

No. 1113.

Marks, $\frac{32\ J_2}{B\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.	.....	
2,000	10,000	.000100	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000750	.000150	0.	.....	
7,000	35,000	.000900	.000200	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001350	.000250	.000050	.000050	Elastic limit.
9,200	46,000	.001550	.000150	.....	.....	
9,400	47,000	.001850	.000350	.....	.....	
9,600	48,000	.002500	.000700	.....	.....	
9,800	49,000	.003050	.000500	.....	.....	
10,000	50,000	.003600	.000550	.001950	.001900	
10,200	51,000	.004500	.000900	.....	.....	
10,400	52,000	.005250	.000750	.....	.....	
10,600	53,000	.006000	.000750	.....	.....	
10,800	54,000	.006500	.000500	.....	.....	
11,000	55,000	.007250	.000750	.....	.....	
11,200	56,000	.008100	.000850	.....	.....	
11,400	57,000	.009050	.000950	.....	.....	
11,600	58,000	.009900	.000850	.....	.....	
11,800	59,000	.010600	.000700	.....	.....	
12,000	60,000	.011700	.001100	.....	.....	
12,400	62,000	.013350	.001650	.....	.....	
12,800	64,000	.015100	.001750	.....	.....	
13,200	66,000	.017100	.002000	.....	.....	
13,600	68,000	.019650	.002550	.....	.....	
14,000	70,000	.022050	.002400	.....	.....	
14,400	72,000	.024750	.002700	.....	.....	
14,800	74,000	.027500	.002750	.....	.....	
15,200	76,000	.030250	.002750	.....	.....	
15,600	78,000	.032700	.002450	.....	.....	
16,000	80,000	.036000	.003300	.....	.....	
16,400	82,000	.041050	.005050	.....	.....	
16,800	84,000	.045250	.004200	.....	.....	
17,200	86,000	.050300	.005050	.....	.....	
17,600	88,000	.057250	.006950	.....	.....	
18,000	90,000	.0650	.007750	.....	.....	
18,400	92,000	.0750	.0100	.....	.....	
18,800	94,000	.1150	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,000
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.1750
Elongation per inch under strain at elastic limit	do...	.001350
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		″.55 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.24*, ″.11

No. 554.

Marks, $_{B}{}^{32}J_{S}{}_{T,M}$
Length, 4″.5.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	—.000050	—.000050	
5,000	10,000	.000200	.000100	—.000050	0.	
7,500	15,000	.000300	.000100	—.000050	0	
10,000	20,000	.000450	.000150	—.000100	—.000050	
12,500	25,000	.000600	.000150	—.000100	0.	
15,000	30,000	.000800	.000200	—.000100	0.	
17,500	35,000	.001000	.000200	—.000100	0.	
20,000	40,000	.001150	.000150	—.000100	0.	
20,500	41,000	.001200	.000050	.....	.....	
21,000	42,000	.001300	.000100	.....	.....	Elastic limit.
21,500	43,000	.001500	.000200	.....	.....	
22,000	44,000	.002700	.001200	.....	.....	
22,500	45,000	.003050	.000350	.001500	.001000	
23,000	46,000	.003800	.000750	.....	.....	
23,500	47,000	.004750	.000950	.....	.....	
24,000	48,000	.005450	.000700	.....	.....	
24,500	49,000	.006450	.001000	.....	.....	
25,000	50,000	.007200	.000750	.005350	.003850	
25,500	51,000	.007750	.000550	.....	.....	
26,000	52,000	.008950	.001200	.....	.....	
26,500	53,000	.009550	.000600	.....	.....	
27,000	54,000	.010500	.000950	.....	.....	
27,500	55,000	.011500	.001000	.009400	.004050	
28,000	56,000	.012050	.000550	.....	.....	
28,500	57,000	.013000	.000950	.....	.....	
29,000	58,000	.013800	.000800	.....	.....	
29,500	59,000	.015000	.001200	.....	.....	
30,000	60,000	.016050	.001050	.013750	.004350	
44,500	89,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	42,000
Compression per inch under stress at elastic limit	inch..	0.001300
Ultimate strength per square inch of original section	pounds..	89,000
Manner of failure		triple flexure

[Additional specimens.]

No. 2215.

Marks, $\frac{32\ J_8}{M\ T_4\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1, 000	0.	0.	0.	0.	Initial load.
1, 000	5, 000	.000150	.000150	0.	.....	
2, 000	10, 000	.000350	.000200	0.	.....	
3, 000	15, 000	.000500	.000150	0.	.....	
4, 000	20, 000	.000650	.000150	0.	.....	
5, 000	25, 000	.000800	.000150	0.	.....	
6, 000	30, 000	.000950	.000150	0.	.....	
7, 000	35, 000	.001200	.000250	0.	.....	
8, 000	40, 000	.001400	.000200	0.	.....	
9, 000	45, 000	.001550	.000150	.....	.....	
9, 200	46, 000	.001600	.000050	.....	.....	
9, 400	47, 000	.001650	.000050	.....	.....	
9, 600	48, 000	.001750	.000100	.....	.....	Elastic limit.
9, 800	49, 000	.003050	.001300	.....	.....	
10, 000	50, 000	.003900	.000850	.....	.....	
10, 200	51, 000	.004450	.000550	.....	.....	
10, 400	52, 000	.005150	.000700	.....	.....	
10, 600	53, 000	.005850	.000700	.....	.....	
10, 800	54, 000	.006650	.000800	.....	.....	
11, 000	55, 000	.007300	.000650	.....	.....	
11, 200	56, 000	.008100	.000800	.....	.....	
11, 400	57, 000	.008850	.000750	.....	.....	
11, 600	58, 000	.009550	.000700	.....	.....	
11, 800	59, 000	.010250	.000700	.....	.....	
12, 000	60, 000	.011000	.000750	.....	.....	
12, 400	62, 000	.012700	.001700	.....	.....	
12, 800	64, 000	.014350	.001650	.....	.....	
13, 200	66, 000	.016300	.001950	.....	.....	
13, 600	68, 000	.018500	.002200	.....	.....	
14, 000	70, 000	.020600	.002100	.....	.....	
14, 400	72, 000	.023000	.002400	.....	.....	
14, 800	74, 000	.025350	.002350	.....	.....	
15, 200	76, 000	.027700	.002350	.....	.....	
15, 600	78, 000	.030200	.002500	.....	.....	
16, 000	80, 000	.033100	.002900	.....	.....	
16, 400	82, 000	.036750	.003650	.....	.....	
16, 800	84, 000	.040150	.003400	.....	.....	
17, 200	86, 000	.045000	.004850	.....	.....	
17, 600	88, 000	.049850	.004850	.....	.....	
18, 000	90, 000	.057000	.007150	.....	.....	
18, 400	92, 000	.066000	.009000	.....	.....	
18, 800	94, 000	.0850	.0190	.....	.....	
19, 200	96, 000	.1150	.0300	.....	.....	
19, 220	96, 100	.1400	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96, 100
Elastic limit per square inch of original section	do...	48, 000
Elongation per inch after rupture	inch..	0. 2150
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34. 0
Position of rupture		″.85 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.16, ″.27[4]

No. 2216.

Marks, $\frac{32\ J_s}{M\ T_s\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
8,600	43,000	.001450	.000100	.....	.....	
8,800	44,000	.001500	.000050	.....	.....	Elastic limit
9,000	45,000	.002850	.001350	.....	.....	
9,200	46,000	.003550	.000700	.....	.....	
9,400	47,000	.004250	.000700	.....	.....	
9,600	48,000	.005000	.000750	.....	.....	
9,800	49,000	.006000	.001000	.....	.....	
10,000	50,000	.006750	.000750	.....	.....	
10,200	51,000	.007500	.000750	.....	.....	
10,400	52,000	.008100	.000600	.....	.....	
10,600	53,000	.008900	.000700	.....	.....	
10,800	54,000	.009750	.000850	.....	.....	
11,000	55,000	.010500	.000750	.....	.....	
11,200	56,000	.011550	.001050	.....	.....	
11,400	57,000	.012200	.000650	.....	.....	
11,600	58,000	.013200	.001000	.....	.....	
11,800	59,000	.014200	.001000	.....	.....	
12,000	60,000	.015000	.000800	.....	.....	
12,400	62,000	.017350	.002350	.....	.....	
12,800	64,000	.019500	.002150	.....	.....	
13,200	66,000	.021700	.002200	.....	.....	
13,600	68,000	.024200	.002500	.....	.....	
14,000	70,000	.026750	.002550	.....	.....	
14,400	72,000	.029550	.002800	.....	.....	
14,800	74,000	.032250	.002700	.....	.....	
15,200	76,000	.035750	.003500	.....	.....	
15,600	78,000	.039750	.004000	.....	.....	
16,000	80,000	.044050	.004300	.....	.....	
16,400	82,000	.050000	.005950	.....	.....	
16,800	84,000	.056500	.006500	.....	.....	
17,200	86,000	.0650	.0085	.....	.....	
17,600	88,000	.0800	.0150	.....	.....	
18,000	90,000	.1000	.0200	.....	.....	
18,070	90,350	.1200	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,350
Elastic limit per square inch of original section	do ..	44,000
Elongation per inch after rupture	inch..	0.1350
Elongation per inch under strain at elastic limit	do ..	.001500
Reduction in diameter at point of rupture	do...	.045
Reduction in area after rupture, per centum of original section		16.9
Position of rupture		″.53 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.15*, ″.12

No. 2217.

Marks, $\frac{32\ J_3}{M\ T_5\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001550	.000200	0.	.....	
9,200	46,000	.001550	0.	.....	.....	
9,400	47,000	.001650	.000100	.....	.....	Elastic limit.
9,600	48,000	.002100	.000450	.....	.....	
9,800	49,000	.003000	.000900	.....	.....	
10,000	50,000	.004000	.001000	.....	.....	
10,200	51,000	.005000	.001000	.....	.....	
10,400	52,000	.005900	.000900	.....	.....	
10,600	53,000	.006500	.000600	.....	.....	
10,800	54,000	.007200	.000700	.....	.....	
11,000	55,000	.008150	.000950	.....	.....	
11,200	56,000	.008900	.000750	.....	.....	
11,400	57,000	.009650	.000750	.....	.....	
11,600	58,600	.010400	.000750	.....	.....	
11,800	59,000	.011250	.000850	.....	.....	
12,000	60,000	.012050	.000800	.....	.....	
12,400	62,000	.013800	.001750	.....	.....	
12,800	64,000	.015750	.001950	.....	.....	
13,200	66,000	.017700	.001950	.....	.....	
13,600	68,000	.020000	.002300	.....	.....	
14,000	70,000	.022400	.002400	.....	.....	
14,400	72,000	.024600	.002200	.....	.....	
14,800	74,000	.027250	.002650	.....	.....	
15,200	76,000	.029650	.002400	.....	.....	
15,600	78,000	.033000	.003350	.....	.....	
16,000	80,000	.036050	.003050	.....	.....	
16,400	82,000	.039750	.003700	.....	.....	
16,800	84,000	.044000	.004250	.....	.....	
17,200	86,000	.046800	.002800	.....	.....	
17,600	88,000	.056050	.009250	.....	.....	
18,000	90,000	.0650	.008950	.....	.....	
18,400	92,000	.0800	.0150	.....	.....	
18,660	93,300	.1150	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,300
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		½ inch from neck
Character of broken surface		granular; dull spot at circumference
Minimum diameter ½ inch from point of rupture		″.42
Elongation of inch sections		″.27*, ″.09

NEW JACKET, No. 8.

No. 2547.

Marks, $\frac{32\ J}{M\ T, M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000800	.000100	0.	.....	
7,000	35,000	.000950	.000150	.....	.....	
8,000	40,000	.001100	.000150	.....	.....	
9,000	45,000	.001250	.000150	.....	.....	
9,200	46,000	.001300	.000050	.....	.....	
9,400	47,000	.001350	.000050	.....	.....	
9,600	48,000	.001400	.000050	.....	.....	
9,800	49,000	.001450	.000050	.....	.....	
10,000	50,000	.001500	.000050	.....	.....	
10,200	51,000	.001500	0.	.....	.....	
10,400	52,000	.001550	.000050	.....	.....	Elastic limit.
10,600	53,000	.001750	.000200	.....	.....	
10,800	54,000	.002250	.000500	.....	.....	
11,000	55,000	.002800	.000550	.....	.....	
11,200	56,000	.003400	.000600	.....	.....	
11,400	57,000	.003950	.000550	.....	.....	
11,600	58,000	.004800	.000850	.....	.....	
11,800	59,000	.005400	.000600	.....	.....	
12,000	60,000	.006100	.000700	.....	.....	
12,400	62,000	.007450	.001350	.....	.....	
12,800	64,000	.008850	.001400	.....	.....	
13,200	66,000	.010050	.001200	.....	.....	
13,600	68,000	.011900	.001850	.....	.....	
14,000	70,000	.013100	.001200	.....	.....	
14,400	72,000	.014950	.001850	.....	.....	
14,800	74,006	.016800	.001850	.....	.....	
15,200	76,000	.018750	.001950	.....	.....	
15,600	78,000	.020250	.001500	.....	.....	
16,000	80,000	.022000	.001750	.....	.....	
16,400	82,000	.024000	.002000	.....	.....	
16,800	84,000	.026150	.002150	.....	.....	
17,200	86,000	.028750	.002600	.....	.....	
17,600	88,000	.031100	.002350	.....	.....	
18,000	90,000	.034050	.002950	.....	.....	
18,400	92,000	.037550	.003500	.....	.....	
18,800	94,000	.041150	.003600	.....	.....	
19,200	96,000	.045900	.004750	.....	.....	
19,600	98,000	.050100	.004200	.....	.....	
20,000	100,000	.0600	.0099	.....	.....	
20,400	102,000	.0650	.0050	.....	.....	
20,800	104,000	.0800	.0150	.....	.....	
21,120	105,600	.1150	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	105,60
Elastic limit per square inch of original section	do...	52,00
Elongation per inch after rupture	inch..	0.185
Elongation per inch under strain at elastic limit	do...	.0015
Reduction in diameter at point of rupture	do...	.09
Reduction in area after rupture, per centum of original section		34.6
Position of rupture		1″. 1 from neck
Character of broken surface		granular; dull center
Elongation of inch sections		″. 21, ″. 16

No. 2548.

Marks, $^{32\ J}_{MT,\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000250	.000100	0.		
3,000	15,000	.000400	.000150	0.		
4,000	20,000	.000500	.000100	0.		
5,000	25,000	.000650	.000150	0.		
6,000	30,000	.000850	.000200	0.		
7,000	35,000	.000950	.000100			
8,000	40,000	.001150	.000200			
9,000	45,000	.001350	.000200			
9,200	46,000	.001400	.000050			
9,400	47,000	.001500	.000100			
9,600	48,000	.001500	0.			
9,800	49,000	.001550	.000050			
10,000	50,000	.001600	.000050			
10,200	51,000	.001650	.000050			
10,400	52,000	.001700	.000050			
10,600	53,000	.001800	.000100			Elastic limit.
10,800	54,000	.002100	.000300			
11,000	55,000	.002350	.000250			
11,200	56,000	.002800	.000450			
11,400	57,000	.003300	.000500			
11,600	58,000	.003800	.000500			
11,800	59,000	.004750	.000950			
12,000	60,000	.005500	.000750			
12,400	62,000	.006500	.001000			
12,800	64,000	.007950	.001450			
13,200	66,000	.009100	.001150			
13,600	68,000	.010600	.001500			
14,000	70,000	.012000	.001400			
14,400	72,000	.013500	.001500			
14,800	74,000	.015000	.001500			
15,200	76,000	.016550	.001550			
15,600	78,000	.018500	.001950			
16,000	80,000	.020000	.001500			
16,400	82,000	.021800	.001800			
16,800	84,000	.023750	.001950			
17,200	86,000	.026000	.002250			
17,600	88,000	.028200	.002200			
18,000	90,000	.030300	.002100			
18,400	92,000	.033500	.003200			
18,800	94,000	.036250	.002750			
19,200	96,000	.039500	.003250			
19,600	98,000	.043500	.004000			
20,000	100,000	.048100	.004600			
20,400	102,000	.053750	.005650			
20,800	104,000	.0600	.006250			
21,200	106,000	.0700	.0100			
21,600	108,000	.0950	.0250			
21,610	108,050					Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	108,050
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.1000
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.035
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		″.71 from neck
Character of broken surface	granular; radiating from a point in the circumference	
Elongation of inch sections		″.09, ″.11*

No. 660.

Marks, $\frac{32\ J_s}{M\ T_s\ M}$
Length, 4.″504.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000300	.000200	0.	.....	
7,500	15,000	.000467	.000167	0.	.....	
10,000	20,000	.000700	.000233	0.	.....	
12,500	25,000	.000900	.000200	0.	.....	
15,000	30,000	.001067	.000167	.000033	.000033	
17,500	35,000	.001267	.000200	.000067	.000034	
20,000	40,000	.001433	.000166	.....	.....	
20,500	41,000	.001467	.000034	.....	.....	
21,000	42,000	.001533	.000066	.....	.....	
21,500	43,000	.001567	.000034	.....	.....	
22,000	44,000	.001633	.000066	.....	.....	
22,500	45,000	.001667	.000034	.....	.....	
23,000	46,000	.001700	.000033	.....	.....	
23,500	47,000	.001733	.000033	.....	.....	
24,000	48,000	.001800	.000067	.....	.....	
24,500	49,000	.001833	.000033	.....	.....	
25,000	50,000	.001867	.000034	.....	.....	
25,500	51,000	.001933	.000066	.....	.....	
26,000	52,000	.002000	.000067	.....	.....	
26,500	53,000	.002067	.000067	.....	.....	Elastic limit.
27,000	54,000	.002267	.000200	.....	.....	
27,500	55,000	.002700	.000433	.....	.....	
28,000	56,000	.003400	.000700	.....	.....	
28,500	57,000	.004167	.000767	.....	.....	
29,000	58,000	.005033	.000866	.....	.....	
52,320	104,640	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	53,000
Compression per inch under stress at elastic limit	inch..	0.002067
Ultimate strength per square inch of original section	pounds..	104,640
Manner of failure		triple flexure

[Additional specimens.]

No. 2720.

Marks, $\frac{32\ J_s}{M\ T_{10}\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000900	.000250	0.	.....	
6,000	30,000	.001100	.000200	0.	.....	
7,000	35,000	.001300	.000200	0.	.....	
8,000	40,000	.001500	.000200	.000050	.000050	
9,000	45,000	.001700	.000200	.....	.....	
9,200	46,000	.001709	0.	.....	.....	
9,400	47,000	.001770	.000050	.....	.....	
9,600	48,000	.001800	.000050	.....	.....	
9,800	49,000	.001850	.000050	.....	.....	
10,000	50,000	.001950	.000100	.....	.....	
10,200	51,000	.002050	.000100	.....	.....	
10,400	52,000	.002100	.000050	.....	.....	
10,600	53,000	.002200	.000100	.....	.....	Elastic limit.
10,800	54,000	.002500	.000300	.....	.....	
11,000	55,000	.002850	.000350	.....	.....	
11,200	56,000	.003250	.000400	.....	.....	
11,400	57,000	.003900	.000650	.....	.....	
11,600	58,000	.004500	.000600	.....	.....	
11,800	59,000	.005200	.000700	.....	.....	
12,000	60,000	.005700	.000500	.....	.....	
12,400	62,000	.007500	.001800	.....	.....	
12,800	64,000	.008500	.001000	.....	.....	
13,200	66,000	.009650	.001150	.....	.....	
13,600	68,000	.011150	.001500	.....	.....	
14,000	70,000	.012750	.001600	.....	.....	
14,400	72,000	.014250	.001500	.....	.....	
14,800	74,000	.015600	.001350	.....	.....	
15,200	76,000	.017500	.001900	.....	.....	
15,600	78,000	.019000	.001500	.....	.....	
16,000	80,000	.020600	.001600	.....	.....	
16,400	82,000	.022500	.001900	.....	.....	
16,800	84,000	.024500	.002000	.....	.....	
17,200	86,000	.026750	.002250	.....	.....	
17,600	88,000	.029250	.002500	.....	.....	
18,000	90,000	.031750	.002500	.....	.....	
18,400	92,000	.034150	.002400	.....	.....	
18,800	94,000	.037300	.003150	.....	.....	
19,200	96,000	.040600	.003300	.....	.....	
19,600	98,000	.0450	.004400	.....	.....	
20,000	100,000	.0500	.0050	.....	.....	
20,400	102,000	.0525	.0025	.....	.....	
20,800	104,000	.0600	.0075	.....	.....	
21,200	106,000	.0750	.0150	.....	.....	
21,600	108,000	.1050	.0300	.....	.....	
21,620	108,100	.1200	.0150	.....	.....	Tensile strength

General summary.

Tensile strength per square inch of original section ..... pounds.
Elastic limit per square inch of original section ..... do.
Elongation per inch after rupture ..... inch.
Elongation per inch under strain at elastic limit ..... do.
Reduction in diameter at point of rupture ..... do.
Reduction in area after rupture, per centum of original section .....
Position of rupture ..... ". 90 fro
Character of broken surface ..... granular; si
Elongation of inch sections .....

No. 2721.

Marks, $\frac{32\ J_8}{M\ T_{11}\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001450	.000200	.....	.....	
10,000	50,000	.001700	.000250	.....	.....	
10,200	51,000	.001800	.000100	.....	.....	
10,400	52,000	.001900	.000100	.....	.....	Elastic limit.
10,600	53,000	.002200	.000300	.....	.....	
10,800	54,000	.002900	.000700	.....	.....	
11,000	55,000	.003650	.000750	.....	.....	
11,200	56,000	.004150	.000500	.....	.....	
11,400	57,000	.004650	.000500	.....	.....	
11,600	58,000	.005300	.000650	.....	.....	
11,800	59,000	.006000	.000700	.....	.....	
12,000	60,000	.006550	.000550	.....	.....	
12,400	62,000	.008500	.001950	.....	.....	
12,800	64,000	.010000	.001500	.....	.....	
13,200	66,000	.011000	.001000	.....	.....	
13,600	68,000	.012400	.001400	.....	.....	
14,000	70,000	.014050	.001650	.....	.....	
14,400	72,000	.015600	.001550	.....	.....	
14,800	74,000	.017100	.001500	.....	.....	
15,200	76,000	.018750	.001650	.....	.....	
15,600	78,000	.020650	.001900	.....	.....	
16,000	80,000	.022750	.002100	.....	.....	
16,400	82,000	.024800	.002050	.....	.....	
16,800	84,000	.027000	.002200	.....	.....	
17,200	86,000	.029750	.002750	.....	.....	
17,600	88,000	.032250	.002500	.....	.....	
18,000	90,000	.035600	.003350	.....	.....	
18,400	92,000	.038650	.003050	.....	.....	
18,800	94,000	.042600	.003950	.....	.....	
19,200	96,000	.047000	.004400	.....	.....	
19,600	98,000	.0525	.0055	.....	.....	
20,000	100,000	.0600	.0075	.....	.....	
20,400	102,000	.0700	.0100	.....	.....	
20,800	104,000	.0850	.0150	.....	.....	
21,020	105,100	.1200	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	105,100
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		".80 from neck
Character of broken surface	granular; silky spot near center	
Elongation of inch sections		".23*, ".11

No. 2722.

Marks, $^{32}_{M}\,^{J_8}_{T_{12}M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001550	.000200	.....	.....	
10,000	50,000	.001750	.000200	.....	.....	
10,200	51,000	.001850	.000100	.....	.....	
10,400	52,000	.002000	.000150	.....	.....	
10,600	53,000	.002100	.000100	.....	.....	Elastic limit.
10,800	54,000	.002550	.000450	.....	.....	
11,000	55,000	.003000	.000450	.....	.....	
11,200	56,000	.003700	.000700	.....	.....	
11,400	57,000	.004300	.000600	.....	.....	
11,600	58,000	.004850	.000550	.....	.....	
11,800	59,000	.005550	.000700	.....	.....	
12,000	60,000	.006500	.000950	.....	.....	
12,400	62,000	.007700	.001200	.....	.....	
12,800	64,000	.009000	.001300	.....	.....	
13,200	66,000	.010600	.001600	.....	.....	
13,600	68,000	.012250	.001650	.....	.....	
14,000	70,000	.013500	.001250	.....	.....	
14,400	72,000	.015150	.001650	.....	.....	
14,800	74,000	.016750	.001600	.....	.....	
15,200	76,000	.018500	.001750	.....	.....	
15,600	78,000	.020250	.001750	.....	.....	
16,000	80,000	.022050	.001800	.....	.....	
16,400	82,000	.024000	.001950	.....	.....	
16,800	84,000	.026500	.002500	.....	.....	
17,200	86,000	.029000	.002500	.....	.....	
17,600	88,000	.031500	.002500	.....	.....	
18,000	90,000	.034500	.003000	.....	.....	
18,400	92,000	.037850	.003350	.....	.....	
18,800	94,000	.041150	.003300	.....	.....	
19,200	96,000	.045250	.004100	.....	.....	
19,600	98,000	.0500	.004750	.....	.....	
20,000	100,000	.0575	.0075	.....	.....	
20,400	102,000	.0650	.0075	.....	.....	
21,000	104,000	.0850	.0200	.....	.....	
21,180	105,900	.1200	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	105,900
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do...	.002100
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		1 inch from neck
Character of broken surface		granular; dull silky center
Elongation of inch sections		″.23*, ″.15

No. 1114.

Marks, $\frac{32\ J_8}{B\ T,\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000250	.000100	0.		
3,000	15,000	.000400	.000150	0.		
4,000	20,000	.000600	.000200	0.		
5,000	25,000	.000700	.000100	0.		
6,000	30,000	.000850	.000150	0.		
7,000	35,000	.001000	.000180	0.		
8,000	40,000	.001200	.000200	0.		
9,000	45,000	.001400	.000200	0.		
10,000	50,000	.001700	.000300	.000200	.000200	Elastic limit.
10,200	51,000	.002300	.000600			
10,400	52,000	.002750	.000450			
10,600	53,000	.003000	.000250			
10,800	54,000	.003300	.000300			
11,000	55,000	.004050	.000750	.002050	.001850	
11,200	56,000	.004550	.000500			
11,400	57,000	.005350	.000800			
11,600	58,000	.006100	.000750			
11,800	59,000	.006750	.000650			
12,000	60,000	.007400	.000650			
12,400	62,000	.009600	.002200			
12,800	64,000	.011000	.001400			
13,200	66,000	.012350	.001350			
13,600	68,000	.014100	.001750			
14,000	70,000	.016050	.001950			
14,400	72,000	.018600	.002550			
14,800	74,000	.021000	.002400			
15,200	76,000	.022900	.001900			
15,600	78,000	.025250	.002350			
16,000	80,000	.027750	.002500			
16,400	82,000	.030250	.002500			
16,800	84,000	.033200	.002950			
17,200	86,000	.036850	.003650			
17,600	88,000	.040350	.003500			
18,000	90,000	.045150	.004800			
18,400	92,000	.051150	.006000			
18,800	94,000	.0600	.008850			
19,200	96,000	.0700	.0100			
19,600	98,000	.0800	.0100			
19,750	98,750	.1250	.0450			Tensile strength.

General summary.

Specific gravity		7.8641
Tensile strength per square inch of original section	pounds..	98,750
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.1750
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		″.45 from neck
Character of broken surface		silky
Elongation of inch sections		″.27*, ″.08

No. 1115.

Marks, $\frac{32\ J_9}{B\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	.000050	.000050	
8,000	40,000	.001300	.000250	.000100	.000050	
9,000	45,000	.001450	.000150	.....	.....	
9,200	46,000	.001450	0.	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001550	.000050	.....	.....	Elastic limit.
9,800	49,000	.001700	.000150	.....	.....	
10,000	50,000	.001900	.000200	.000200	.000100	
10,200	51,000	.002450	.000550	.....	.....	
10,400	52,000	.002650	.000200	.....	.....	
10,600	53,000	.003100	.000450	.....	.....	
10,800	54,000	.003550	.000450	.....	.....	
11,000	55,000	.004300	.000750	.....	.....	
11,200	56,000	.005900	.000600	.....	.....	
11,400	57,000	.005650	.000750	.....	.....	
11,600	58,000	.006350	.000700	.....	.....	
11,800	59,000	.007200	.000850	.....	.....	
12,000	60,000	.007750	.000550	.....	.....	
12,400	62,000	.009700	.001950	.....	.....	
12,800	64,000	.011200	.001500	.....	.....	
13,200	66,000	.012850	.001650	.....	.....	
13,600	68,000	.014800	.001950	.....	.....	
14,000	70,000	.016600	.001800	.....	.....	
14,400	72,000	.019550	.002950	.....	.....	
14,800	74,000	.020850	.001300	.....	.....	
15,200	76,000	.022750	.001900	.....	.....	
15,600	78,000	.025400	.002650	.....	.....	
16,000	80,000	.028250	.002850	.....	.....	
16,400	82,000	.031200	.002950	.....	.....	
16,800	84,000	.034050	.002850	.....	.....	
17,200	86,000	.037800	.003750	.....	.....	
17,600	88,000	.041100	.003300	.....	.....	
18,000	90,000	.046250	.005150	.....	.....	
18,400	92,000	.052250	.006000	.....	.....	
18,800	94,000	.059500	.007250	.....	.....	
19,200	96,000	.0650	.0055	.....	.....	
19,600	98,000	.0900	.0250	.....	.....	
19,920	99,600	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section .....pounds..
Elastic limit per square inch of original section.....do...
Elongation per inch after rupture.....inch..
Elongation per inch under strain at elastic limit.....do...
Reduction in diameter at point of rupture .....do...
Reduction in area after rupture, per centum of original section .....
Position of rupture.....at
Character of broken surface.....granular; defective spot near the circumfe
Elongation of inch sections.....″.12

No. 555.

Marks, $^{32\ J.}_{B\ T.M}$
Length, 4″.49.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.		
5,000	10,000	.000250	.000150	0.		
7,500	15,000	.000400	.000150	0.		
10,000	20,000	.000500	.000100	0.		
12,500	25,000	.000650	.000150	0.		
15,000	30,000	.000800	.000150	0.		
17,500	35,000	.001000	.000200	0.		
20,000	40,000	.001200	.000200	0.		
20,500	41,000	.001250	.000050			
21,000	42,000	.001250	0.			
21,500	43,000	.001300	.000050			
22,000	44,000	.001300	0.			
22,500	45,000	.001350	.000050	0.		
23,000	46,000	.001350	0.			
23,500	47,000	.001400	.000050			
24,000	48,000	.001400	0.			
24,500	49,000	.001450	.000050			
25,000	50,000	.001500	.000050	0.		
25,500	51,000	.001550	.000050			
26,000	52,000	.001750	.000200			
26,500	53,000	.001900	.000150			
27,000	54,000	.002000	.000100			Elastic limit.
27,500	55,000	.002200	.000200	.000350	.000350	
28,000	56,000	.002300	.000100			
28,500	57,000	.002550	.000250			
29,000	58,000	.002800	.000250			
29,500	59,000	.003000	.000200			
30,000	60,000	.003250	.000250	.001250	.000900	
30,500	61,000	.003700	.000450			
31,000	62,000	.004000	.000300			
31,500	63,000	.004250	.000250			
32,000	64,000	.004700	.000450			
32,500	65,000	.005100	.000400	.002850	.001600	
47,400	94,800					Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.002000
Ultimate strength per square inch of original section	pounds..	94,800
Manner of failure		triple flexure

[Additional specimens.]

No. 2212.

Marks, $\frac{22\ J}{B\ T,\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000600	.000250	0.	.....	
4,000	20,000	.000750	.000150	0.	.....	
5,000	25,000	.000850	.000100	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001250	.000250	0.	.....	
8,000	40,000	.001350	.000100	0.	.....	
9,000	45,000	.001500	.000150	0.	.....	
9,600	48,000	.001650	.000150	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	Elastic limit.
10,000	50,000	.002650	.000950	.....	.....	
10,200	51,000	.004300	.001650	.....	.....	
10,400	52,000	.005950	.001650	.....	.....	
10,600	53,000	.007000	.001050	.....	.....	
10,800	54,000	.008000	.001000	.....	.....	
11,000	55,000	.008650	.000650	.....	.....	
11,200	56,000	.009350	.000700	.....	.....	
11,400	57,000	.010100	.000750	.....	.....	
11,600	58,000	.011050	.000950	.....	.....	
11,800	59,000	.011750	.000700	.....	.....	
12,000	60,000	.012900	.001150	.....	.....	
12,400	62,000	.014600	.001700	.....	.....	
12,800	64,000	.016200	.001600	.....	.....	
13,200	66,000	.018500	.002300	.....	.....	
13,600	68,000	.020500	.002000	.....	.....	
14,000	70,000	.022650	.002150	.....	.....	
14,400	72,000	.025000	.002350	.....	.....	
14,800	74,000	.028050	.003050	.....	.....	
15,200	76,000	.030300	.002250	.....	.....	
15,600	78,000	.033300	.003000	.....	.....	
16,000	80,000	.036600	.003300	.....	.....	
16,400	82,000	.040250	.003650	.....	.....	
16,800	84,000	.045000	.004750	.....	.....	
17,200	86,000	.050300	.005300	.....	.....	
17,600	88,000	.056500	.006200	.....	.....	
18,000	90,000	.066000	.009500	.....	.....	
18,400	92,000	.0850	.0190	.....	.....	
18,800	94,000	.1050	.0200	.....	.....	
18,980	94,900	.1450	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,900
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		".05 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".23*, ".24*

No. 2213.

Marks, $\frac{32\ J.}{B\ T.\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001400	.000150	0.	.....	
9,200	46,000	.001500	.000100	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	Elastic limit.
9,800	49,000	.001750	.000150	.....	.....	
10,000	50,000	.006050	.004300	.....	.....	
10,200	51,000	.007000	.000950	.....	.....	
10,400	52,000	.008250	.001250	.....	.....	
10,600	53,000	.008900	.000650	.....	.....	
10,800	54,000	.009550	.000650	.....	.....	
11,000	55,000	.010300	.000750	.....	.....	
11,200	56,000	.011250	.000950	.....	.....	
11,400	57,000	.012150	.000900	.....	.....	
11,600	58,000	.013350	.001200	.....	.....	
11,800	59,000	.014550	.001200	.....	.....	
12,000	60,000	.015350	.000800	.....	.....	
12,400	62,000	.017250	.001900	.....	.....	
12,800	64,000	.019250	.002000	.....	.....	
13,200	66,000	.022000	.002750	.....	.....	
13,600	68,000	.024500	.002500	.....	.....	
14,000	70,000	.027050	.002550	.....	.....	
14,400	72,000	.030000	.002950	.....	.....	
14,800	74,000	.033000	.003000	.....	.....	
15,200	76,000	.036750	.003750	.....	.....	
15,600	78,000	.040600	.003850	.....	.....	
16,000	80,000	.045750	.005150	.....	.....	
16,400	82,000	.053250	.007500	.....	.....	
16,800	84,000	.058500	.005250	.....	.....	
17,200	86,000	.067500	.009000	.....	.....	
17,600	88,000	.0850	.0175	.....	.....	
17,900	89,500	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,500
Elastic limit per square inch of original section	do...	48,000
Elongation per inch after rupture	inch..	0.1050
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.035
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		".37 from neck
Character of broken surface		granular; dull flaky spot at the circumference
Elongation of inch sections		".12*, ".09

No. 2214.

Marks, $\frac{32\ J_2}{B\ T_6\ M}$
Diameter, ″.505.
Sectional **area, .20 square inch.**

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000400	.000250	0.	.....	
3,000	15,000	.000600	.000200	0.	.....	
4,000	20,000	.000750	.000150	0.	.....	
5,000	25,000	.000900	.000150	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001250	.000200	0.	.....	
8,000	40,000	.001400	.000150	0.	.....	
9,000	45,000	.001550	.000150	0.	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001650	.000050	.....	.....	
9,600	48,000	.001700	.000050	.....	.....	
9,800	49,000	.001800	.000100	.....	.....	Elastic limit.
10,000	50,000	.003000	.001200	.....	.....	
10,200	51,000	.005000	.002000	.....	.....	
10,400	52,000	.005800	.000800	.....	.....	
10,600	53,000	.006600	.000800	.....	.....	
10,800	54,000	.007300	.000700	.....	.....	
11,000	55,000	.007950	.000650	.....	.....	
11,200	56,000	.008600	.000750	.....	.....	
11,400	57,000	.009450	.000850	.....	.....	
11,600	58,000	.010250	.000800	.....	.....	
11,800	59,000	.010950	.000700	.....	.....	
12,000	60,000	.011750	.000800	.....	.....	
12,400	62,000	.013750	.002000	.....	.....	
12,800	64,000	.015550	.001800	.....	.....	
13,200	66,000	.017400	.001850	.....	.....	
13,600	68,000	.019800	.002400	.....	.....	
14,000	70,000	.022100	.002300	.....	.....	
14,400	72,000	.025000	.002900	.....	.....	
14,800	74,000	.027250	.002250	.....	.....	
15,200	76,000	.029500	.002250	.....	.....	
15,600	78,000	.032350	.002850	.....	.....	
16,000	80,000	.036050	.003700	.....	.....	
16,400	82,000	.040000	.003950	.....	.....	
16,800	84,000	.044250	.004250	.....	.....	
17,200	86,000	.049500	.005250	.....	.....	
17,600	88,000	.056000	.006500	.....	.....	
18,000	90,000	.064000	.008000	.....	.....	
18,400	92,000	.0800	.0160	.....	.....	
18,800	94,000	.1050	.0250	.....	.....	
18,820	94,100	.1200	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,100
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		″.62 from neck
Character of broken surface		silky
Elongation of inch sections		″.09, ″.31*

NEW JACKET, No. 9.

No. 2549.

Marks, $\frac{32\ J}{B\ T, M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000900	.000200	0.	.....	
6,000	30,000	.001100	.000200	0.	.....	
7,000	35,000	.001250	.000150	.....	.....	
8,000	40,000	.001450	.000200	.....	.....	
9,000	45,000	.001600	.000150	.....	.....	
9,200	46,000	.001650	.000050	.....	.....	
9,400	47,000	.001700	.000050	.....	.....	
9,600	48,000	.001700	0.	.....	.....	
9,800	49,000	.001750	.000050	.....	.....	
10,000	50,000	.001800	.000050	.....	.....	
10,200	51,000	.001850	.000050	.....	.....	Elastic limit.
10,400	52,000	.002050	.000200	.....	.....	
10,600	53,000	.002200	.000150	.....	.....	
10,800	54,000	.002450	.000250	.....	.....	
11,000	55,000	.002900	.000450	.....	.....	
11,200	56,000	.003600	.000700	.....	.....	
11,400	57,000	.004250	.000650	.....	.....	
11,600	58,000	.005000	.000750	.....	.....	
11,800	59,000	.005500	.000500	.....	.....	
12,000	60,000	.006150	.000650	.....	.....	
12,400	62,000	.007550	.001400	.....	.....	
12,800	64,000	.009050	.001500	.....	.....	
13,200	66,000	.010100	.001050	.....	.....	
13,600	68,000	.011800	.001700	.....	.....	
14,000	70,000	.013450	.001650	.....	.....	
14,400	72,000	.015000	.001550	.....	.....	
14,800	74,000	.016400	.001400	.....	.....	
15,200	76,000	.018100	.001700	.....	.....	
15,600	78,000	.019600	.001500	.....	.....	
16,000	80,000	.021550	.001950	.....	.....	
16,400	82,000	.023750	.002200	.....	.....	
16,800	84,000	.026000	.002250	.....	.....	
17,200	86,000	.027900	.001900	.....	.....	
17,600	88,000	.030600	.002700	.....	.....	
18,000	90,000	.033100	.002500	.....	.....	
18,400	92,000	.036050	.002950	.....	.....	
18,800	94,000	.039500	.003450	.....	.....	
19,200	96,000	.043500	.004000	.....	.....	
19,600	98,000	.048050	.004550	.....	.....	
20,000	100,000	.054000	.005950	.....	.....	
20,400	102,000	.0600	.0060	.....	.....	
20,800	104,000	.0750	.0150	.....	.....	
21,200	106,000	.0950	.0200	.....	.....	
21,280	106,400	.1100	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	106,400
Elastic limit per square inch of original section	do. ..	51,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do ..	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		½ inch from neck
Character of broken surface		granular; dull center
Elongation of inch sections		".34+, ".10

No. 2550.

Marks, $^{32}_{B}\,^{J}_{T}\,^{s}_{M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000850	.000200	0.	.....	
7,000	35,000	.001050	.000200	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001350	.000150	.....	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001450	0.	.....	.....	
9,800	49,000	.001500	.000050	.....	.....	
10,000	50,000	.001550	.000050	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001700	.000100	.....	.....	Elastic limit.
10,600	53,000	.002000	.000300	.....	.....	
10,800	54,000	.002350	.000350	.....	.....	
11,000	55,000	.002850	.000500	.....	.....	
11,200	56,000	.003350	.000500	.....	.....	
11,400	57,000	.003950	.000600	.....	.....	
11,600	58,000	.004650	.000700	.....	.....	
11,800	59,000	.005600	.000950	.....	.....	
12,000	60,000	.006250	.000650	.....	.....	
12,400	62,000	.007400	.001150	.....	.....	
12,800	64,000	.008900	.001500	.....	.....	
13,200	66,000	.010500	.001600	.....	.....	
13,600	68,000	.011750	.001250	.....	.....	
14,000	70,000	.013250	.001500	.....	.....	
14,400	72,000	.014650	.001400	.....	.....	
14,800	74,000	.016350	.001700	.....	.....	
15,200	76,000	.017850	.001500	.....	.....	
15,600	78,000	.019650	.001800	.....	.....	
16,000	80,000	.022000	.002350	.....	.....	
16,400	82,000	.024000	.002000	.....	.....	
16,800	84,000	.025850	.001850	.....	.....	
17,200	86,000	.028000	.002150	.....	.....	
17,600	88,000	.030600	.002600	.....	.....	
18,000	90,000	.033500	.002900	.....	.....	
18,400	92,000	.036750	.003250	.....	.....	
18,800	94,000	.040150	.003400	.....	.....	
19,200	96,000	.044250	.004100	.....	.....	
19,600	98,000	.049500	.005250	.....	.....	
20,000	100,000	.056000	.006500	.....	.....	
20,400	102,000	.0650	.0090	.....	.....	
20,800	104,000	.0850	.0200	.....	.....	
21,180	105,900	.1150	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section.....pounds.. 105,
Elastic limit per square inch of original section .....do... 52,
Elongation per inch after rupture.....inch.. 0.1
Elongation per inch under strain at elastic limit .....do... .001
Reduction in diameter at point of rupture .....do... .
Reduction in area after rupture, per centum of original section..... 3
Position of rupture..... ″.60 from no
Character of broken surface .....granular, radiating from a dull spot at the circumferen
Elongation of inch sections.....″.11, ″.

No. 661.

Marks, $B\ T_9^{32}\ J_9\ M$
Length, 4″.502.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000267	.000167	0.	.....	
7,500	15,000	.000433	.000166	0.	.....	
10,000	20,000	.000600	.000167	0.	.....	
12,500	25,000	.000767	.000167	0.	.....	
15,000	30,000	.000933	.000166	0.	.....	
17,500	35,000	.001100	.000167	0.	.....	
20,000	40,000	.001300	.000200	0.	.....	
20,500	41,000	.001333	.000033	.....	.....	
21,000	42,000	.001367	.000034	.....	.....	
21,500	43,000	.001367	0.	.....	.....	
22,000	44,000	.001400	.000033	.....	.....	
22,500	45,000	.001433	.000033	.....	.....	
23,000	46,000	.001500	.000067	.....	.....	
23,500	47,000	.001500	0.	.....	.....	
24,000	48,000	.001533	.000033	.....	.....	
24,500	49,000	.001567	.000034	.....	.....	
25,000	50,000	.001633	.000066	.....	.....	
25,500	51,000	.001667	.000034	.....	.....	Elastic limit.
26,000	52,000	.002000	.000333	.....	.....	
26,500	53,000	.002400	.000400	.....	.....	
27,000	54,000	.003167	.000767	.....	.....	
27,500	55,000	.003833	.000666	.....	.....	
28,000	56,000	.004833	.001000	.....	.....	
50,400	100,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	51,000
Compression per inch under stress at elastic limit	inch..	0.001667
Ultimate strength per square inch of original section	pounds..	100,800
Manner of failure		triple flexure

No. 2224.

Marks, $^{32\ J_{10}}_{B\ T,\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,600	5,000	.000050	.000050	0.	.....	
2,000	10,000	.000200	.000150	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001150	.000200	0.	.....	
9,000	45,000	.001400	.000250	.000050	.000050	
9,200	46,000	.001400	0.	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001450	0.	.....	.....	
9,800	49,000	.001500	.000050	.....	.....	
10,000	50,000	.001550	.000050	.000050	0.	
10,200	51,000	.001550	0.	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001600	0.	.....	.....	
10,800	54,000	.001700	.000100	.....	.....	
11,000	55,000	.001750	.000050	.....	.....	Elastic limit.
11,200	56,000	.005050	.003300	.....	.....	
11,400	57,000	.005600	.000550	.....	.....	
11,600	58,000	.006150	.000550	.....	.....	
11,800	59,000	.006650	.000500	.....	.....	
12,000	60,000	.007350	.000700	.....	.....	
12,400	62,000	.008750	.001400	.....	.....	
12,800	64,000	.010600	.001850	.....	.....	
13,200	66,000	.012400	.001800	.....	.....	
13,600	68,000	.014000	.001600	.....	.....	
14,000	70,000	.015700	.001700	.....	.....	
14,400	72,000	.018000	.002300	.....	.....	
14,800	74,000	.020000	.002000	.....	.....	
15,200	76,000	.022500	.002500	.....	.....	
15,600	78,000	.024750	.002250	.....	.....	
16,000	80,000	.027000	.002250	.....	.....	
16,400	82,000	.029750	.002750	.....	.....	
16,800	84,000	.033000	.003250	.....	.....	
17,200	86,000	.036500	.003500	.....	.....	
17,600	88,000	.040100	.003600	.....	.....	
18,000	90,000	.045000	.004900	.....	.....	
18,400	92,000	.050600	.005600	.....	.....	
18,800	94,000	.0600	.0094	.....	.....	
19,200	96,000	.0700	.0100	.....	.....	
19,600	98,000	.0900	.0200	.....	.....	
19,770	98,850	.1100	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,850
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".47 from neck
Character of broken surface		silky
Elongation of inch sections		".27*, ".09

No. 2225.

Marks, $\frac{32\ J_{10}}{B\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001400	.000100	0.	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001600	.000100	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	
10,000	50,000	.001700	.000050	.....	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001750	0.	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001800	0.	.....	.....	
11,000	55,000	.001850	.000050	.....	.....	
11,200	56,000	.001900	.000050	.....	.....	
11,400	57,000	.001950	.000050	.....	.....	Elastic limit.
11,600	58,000	.003900	.001950	.....	.....	
11,800	59,000	.004700	.000800	.....	.....	
12,000	60,000	.005550	.000850	.....	.....	
12,400	62,000	.006600	.001050	.....	.....	
12,800	64,000	.007800	.001200	.....	.....	
13,200	66,000	.009200	.001400	.....	.....	
13,600	68,000	.010500	.001300	.....	.....	
14,000	70,000	.012250	.001750	.....	.....	
14,400	72,000	.014100	.001850	.....	.....	
14,800	74,000	.015750	.001650	.....	.....	
15,200	76,000	.017500	.001750	.....	.....	
15,600	78,000	.019200	.001700	.....	.....	
16,000	80,000	.021850	.002650	.....	.....	
16,400	82,000	.023800	.001950	.....	.....	
16,800	84,000	.026100	.002300	.....	.....	
17,200	86,000	.028500	.002400	.....	.....	
17,600	88,000	.031100	.002600	.....	.....	
18,000	90,000	.034250	.003150	.....	.....	
18,400	92,000	.037800	.003550	.....	.....	
18,800	94,000	.041750	.003950	.....	.....	
19,200	96,000	.046500	.004750	.....	.....	
19,600	98,000	.052000	.005500	.....	.....	
20,000	100,000	.0000	.0080	.....	.....	
20,400	102,000	.0750	.0150	.....	.....	
20,760	103,800	.1000	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	103,800
Elastic limit per square inch of original section	do...	57,000
Elongation per inch after rupture	inch..	0.1550
Elongation per inch under strain at elastic limit	do...	.001950
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		″.1 from middle of stem
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		″.21*, ″.10

No. 617.

Marks, $\overset{32\ J}{B\ T_3\ M}$
Length, 4″.492.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000200	.000200	0.	.....	
5,000	10,000	.000400	.000200	0.	.....	
7,500	15,000	.000500	.000150	0.	.....	
10,000	20,000	.000650	.000100	0.	.....	
12,500	25,000	.000800	.000150	0.	.....	
15,000	30,000	.001000	.000200	0.	.....	
17,500	35,000	.001200	.000200	0.	.....	
20,000	40,000	.001350	.000150	0.	.....	
20,500	41,000	.001400	.000050	.....	.....	
21,000	42,000	.001400	0.	.....	.....	
21,500	43,000	.001450	.000050	.....	.....	
22,000	44,000	.001500	.000050	.....	.....	
22,500	45,000	.001500	0.	0.	.....	
23,000	46,000	.001550	.000050	.....	.....	
23,500	47,000	.001600	.000050	.....	.....	
24,000	48,000	.001650	.000050	.....	.....	
24,500	49,000	.001750	.000100	.....	.....	
25,000	50,000	.001800	.000050	.000100	.000100	Elastic limit.
25,500	51,000	.002200	.000400	.....	.....	
26,000	52,000	.003650	.001450	.....	.....	
26,500	53,000	.005250	.001600	.....	.....	
27,000	54,000	.006000	.000750	.....	.....	
27,500	55,000	.007150	.001150	.005000	.004900	
48,100	96,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001800
Ultimate strength per square inch of original section	pounds..	96,200
Manner of failure		triple flexture

No. 2519.

Marks, $^{32}_{B}\,J_{11}\,T_{1}\,M$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001500	.000250	.....	.....	
9,200	46,000	.001600	.000100	.....	.....	
9,400	47,000	.001700	.000100	.....	.....	
9,600	48,000	.001750	.000050	.....	.....	Elastic limit.
9,800	49,000	.001950	.000200	.....	.....	
10,000	50,000	.003050	.001100	.....	.....	
10,200	51,000	.003400	.000350	.....	.....	
10,400	52,000	.003750	.000350	.....	.....	
10,600	53,000	.004350	.000600	.....	.....	
10,800	54,000	.004900	.000550	.....	.....	
11,000	55,000	.005600	.000700	.....	.....	
11,200	56,000	.006150	.000550	.....	.....	
11,400	57,000	.006850	.000700	.....	.....	
11,600	58,000	.007500	.000650	.....	.....	
11,800	59,000	.008250	.000750	.....	.....	
12,000	60,000	.009100	.000850	.....	.....	
12,400	62,000	.010850	.001750	.....	.....	
12,800	64,000	.012000	.001150	.....	.....	
13,200	66,000	.014750	.002750	.....	.....	
13,600	68,000	.016500	.001750	.....	.....	
14,000	70,000	.018100	.001600	.....	.....	
14,400	72,000	.020100	.002000	.....	.....	
14,800	74,000	.022050	.001950	.....	.....	
15,200	76,000	.024300	.002250	.....	.....	
15,600	78,000	.027150	.002850	.....	.....	
16,000	80,000	.029750	.002600	.....	.....	
16,400	82,000	.032750	.003000	.....	.....	
16,800	84,000	.036000	.003250	.....	.....	
17,200	86,000	.039750	.003750	.....	.....	
17,600	88,000	.045000	.005250	.....	.....	
18,000	90,000	.0550	.0100	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0750	.0100	.....	.....	
19,200	96,000	.0850	.0100	.....	.....	
19,500	97,500	.1250	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,500
Elastic limit per square inch of original section	do...	48,000
Elongation per inch after rupture	inch..	0.1650
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		§ inch from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.22, ″.11

No. 2520.

Marks, $\frac{32\ J_{11}}{B\ T_2\ M}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000250	.000100	0.		
3,000	15,000	.000500	.000250	0.		
4,000	20,000	.000600	.000100	0.		
5,000	25,000	.000750	.000150	0.		
6,000	30,000	.000950	.000200	0.		
7,000	35,000	.001100	.000150	0.		
8,000	40,000	.001250	.000150	0.		
9,000	45,000	.001500	.000250			
9,200	46,000	.001600	.000100			
9,400	47,000	.001650	.000050			Elastic limit.
9,600	48,000	.002000	.000350			
9,800	49,000	.002550	.000550			
10,000	50,000	.003050	.000500			
10,200	51,000	.003500	.000450			
10,400	52,000	.004250	.000750			
10,600	53,000	.005050	.000800			
10,800	54,000	.005650	.000600			
11,000	55,000	.006250	.000600			
11,200	56,000	.007000	.000750			
11,400	57,000	.007800	.000800			
11,600	58,000	.008550	.000750			
11,800	59,000	.009350	.000800			
12,000	60,000	.010100	.000750			
12,400	62,000	.011850	.001750			
12,800	64,000	.014000	.002150			
13,200	66,000	.015600	.001600			
13,600	68,000	.017900	.002300			
14,000	70,000	.020000	.002100			
14,400	72,000	.022050	.002050			
14,800	74,000	.024000	.001950			
15,200	76,000	.026500	.002500			
15,600	78,000	.029250	.002750			
16,000	80,000	.032250	.003000			
16,400	82,000	.035600	.003350			
16,800	84,000	.039750	.004150			
17,200	86,000	.045000	.005250			
17,600	88,000	.0650	.0100			
18,000	90,000	.0600	.0050			
18,400	92,000	.0650	.0050			
18,800	94,000	.0800	.0150			
19,200	96,000	.1000	.0200			
19,300	96,500					Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,500
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1200
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.034
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		".15 from neck
Character of broken surface		granular; opened cracks in surface of stem
Elongation of inch sections		".13", ".11

No. 649.

Marks, $\frac{32\ J\ 11}{B\ T\ ,M}$
Length, 4″.485.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000267	.000134	0.	.....	
7,500	15,000	.000433	.000166	0.	.....	
10,000	20,000	.000600	.000167	0.	.....	
12,500	25,000	.000767	.000167	.000033	.000033	
15,000	30,000	.000967	.000200	.000067	.000034	
17,500	35,000	.001167	.000200	.000067	0.	
20,000	40,000	.001333	.000166	.000133	.000066	
20,500	41,000	.001367	.000034	.....	.....	
21,000	42,000	.001400	.000033	.....	.....	
21,500	43,000	.001433	.000033	.....	.....	Elastic limit.
22,000	44,000	.001767	.000334	.....	.....	
22,500	45,000	.002100	.000333	.....	.....	
23,000	46,000	.002433	.000333	.....	.....	
23,500	47,000	.002567	.000134	.....	.....	
24,000	48,000	.002867	.000300	.....	.....	
24,500	49,000	.003500	.000633	.....	.....	
25,000	50,000	.004000	.000500	.....	.....	
45,880	91,760	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	43,000
Compression per inch under stress at elastic limit	inch..	0.001433
Ultimate strength per square inch of original section	pounds..	91,760
Manner of failure		triple flexure

NEW JACKET NO. 11.

No. 2711.

Marks, $\frac{32\ J_{11}}{B\ T_4\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pound.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.050150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001450	.000150	.....	.....	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001550	0.	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	
10,000	50,000	.001650	.000050	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	Elastic limit.
10,400	52,000	.002000	.000300	.....	.....	
10,600	53,000	.003000	.001000	.....	.....	
10,800	54,000	.003750	.000750	.....	.....	
11,000	55,000	.004650	.000900	.....	.....	
11,200	56,000	.005600	.000950	.....	.....	
11,400	57,000	.006200	.000600	.....	.....	
11,600	58,000	.007050	.000850	.....	.....	
11,800	59,000	.007350	.000300	.....	.....	
12,000	60,000	.008900	.001550	.....	.....	
12,400	62,000	.010150	.001250	.....	.....	
12,800	64,000	.012000	.001850	.....	.....	
13,200	66,000	.013750	.001750	.....	.....	
13,600	68,000	.015350	.001600	.....	.....	
14,000	70,000	.017050	.001700	.....	.....	
14,400	72,000	.019300	.002250	.....	.....	
14,800	74,000	.021600	.002300	.....	.....	
15,200	76,000	.024000	.002400	.....	.....	
15,600	78,000	.026300	.002300	.....	.....	
16,000	80,000	.029050	.002750	.....	.....	
16,400	82,000	.032550	.003500	.....	.....	
16,800	84,000	.036000	.003450	.....	.....	
17,200	86,000	.039500	.003500	.....	.....	
17,600	88,000	.043600	.004100	.....	.....	
18,000	90,000	.0500	.0064	.....	.....	
18,400	92,000	.0550	.0050	.....	.....	
18,800	94,000	.0600	.0050	.....	.....	
19,200	96,000	.0750	.0150	.....	.....	
19,600	98,000	.1050	.0300	.....	.....	
19,680	98,400	.1350	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,400
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		1 inch from neck
Character of broken surface		silky, 40 per centum; granular, 60 per centum
Elongation of inch sections		".18, ".24"

No. 2712.

Marks, $\frac{32\ J_{11}}{B\ T_5\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001400	.000200	0.	.....	
9,000	45,000	.001550	.000150	.....	.....	
10,000	50,000	.001750	.000200	.....	.....	Elastic limit.
10,200	51,000	.002550	.000800	.....	.....	
10,400	52,000	.003700	.001150	.....	.....	
10,600	53,000	.004650	.000950	.....	.....	
10,800	54,000	.005550	.000900	.....	.....	
11,000	55,000	.006000	.000450	.....	.....	
11,200	56,000	.007000	.001000	.....	.....	
11,400	57,000	.007600	.000600	.....	.....	
11,600	58,000	.008200	.000600	.....	.....	
11,800	59,000	.008900	.000700	.....	.....	
12,000	60,000	.009600	.000700	.....	.....	
12,400	62,000	.011400	.001800	.....	.....	
12,800	64,000	.013100	.001700	.....	.....	
13,200	66,000	.014600	.001500	.....	.....	
13,600	68,000	.016250	.001650	.....	.....	
14,000	70,000	.018100	.001850	.....	.....	
14,400	72,000	.020100	.002000	.....	.....	
14,800	74,000	.022500	.002600	.....	.....	
15,200	76,000	.024800	.002300	.....	.....	
15,600	78,000	.027000	.002200	.....	.....	
16,000	80,000	.029750	.002750	.....	.....	
16,400	82,000	.033000	.003250	.....	.....	
16,800	84,000	.036000	.003000	.....	.....	
17,200	86,000	.039250	.003250	.....	.....	
17,600	88,000	.043500	.004250	.....	.....	
18,000	90,000	.048500	.005000	.....	.....	
18,400	92,000	.0550	.0065	.....	.....	
18,800	94,000	.0600	.0050	.....	.....	
19,200	96,000	.0750	.0150	.....	.....	
19,600	98,000	.0950	.0200	.....	.....	
19,760	98,800	.1300	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	98,800
Elastic limit per square inch of original section	do	50,000
Elongation per inch after rupture	inch	0.2100
Elongation per inch under strain at elastic limit	do	.001750
Reduction in diameter at point of rupture	do	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		″.75 from neck
Character of broken surface		silky; trace of granulation
Elongation of inch sections		″.30, ″.12

No. 676.

Marks, $^{32}_{B}J_{U}T_{e}M$
Length, 4″.50.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000267	.000167	0.	.....	
7,500	15,000	.000433	.000166	0.	.....	
10,000	20,000	.000600	.000167	0.	.....	
12,500	25,000	.000800	.000200	0.	.....	
15,000	30,000	.000933	.000133	0.	.....	
17,500	35,000	.001100	.000167	0.	.....	
20,000	40,000	.001267	.000167	0.	.....	
20,500	41,000	.001300	.000033	.....	.....	
21,000	42,000	.001300	0.	.....	.....	
21,500	43,000	.001333	.000033	.....	.....	
22,000	44,000	.001367	.000034	.....	.....	
22,500	45,000	.001400	.000033	.....	.....	
23,000	46,000	.001433	.000033	.....	.....	
23,500	47,000	.001467	.000034	.....	.....	
24,000	48,000	.001500	.000033	.....	.....	
24,500	49,000	.001500	0.	.....	.....	
25,000	50,000	.001533	.000033	.....	.....	
25,500	51,000	.001567	.000034	.....	.....	Elastic limit.
26,000	52,000	.002333	.000766	.....	.....	
26,500	53,000	.003233	.000900	.....	.....	
27,000	54,000	.003833	.000600	.....	.....	
27,500	55,000	.004500	.000667	.....	.....	
28,000	56,000	.005100	.000600	.....	.....	
49,100	98,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	51,000
Compression per inch under stress at elastic limit	inch..	0.001567
Ultimate strength per square inch of original section	pounds..	98,200
Manner of failure		triple flexure

No. 2226.

Marks, $\frac{32\ J_{12}}{B\ T_1\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001550	.000200	.....	.....	
10,000	50,000	.001700	.000150	.....	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	
10,600	53,000	.001900	.000100	.....	.....	
10,800	54,000	.001900	0.	.....	.....	
11,000	55,000	.001950	.000050	.....	.....	
11,200	56,000	.002000	.000050	.....	.....	Elastic limit.
11,400	57,000	.010300	.008300	.....	.....	
11,600	58,000	.011000	.000700	.....	.....	
11,800	59,000	.011700	.000700	.....	.....	
12,000	60,000	.012600	.000900	.....	.....	
12,400	62,000	.014150	.001550	.....	.....	
12,800	64,000	.016200	.002050	.....	.....	
13,200	66,000	.018250	.002050	.....	.....	
13,600	68,000	.020000	.001750	.....	.....	
14,000	70,000	.022250	.002250	.....	.....	
14,400	72,000	.024400	.002150	.....	.....	
14,800	74,000	.027000	.002600	.....	.....	
15,200	76,000	.029250	.002250	.....	.....	
15,600	78,000	.032250	.003000	.....	.....	
16,000	80,000	.035600	.003350	.....	.....	
16,400	82,000	.039000	.003400	.....	.....	
16,800	84,000	.043250	.004250	.....	.....	
17,200	86,000	.049000	.005750	.....	.....	
17,600	88,000	.055250	.006250	.....	.....	
18,000	90,000	.0650	.009750	.....	.....	
18,400	92,000	.0800	.0150	.....	.....	
18,800	94,000	.0950	.0150	.....	.....	
19,200	96,000	.1100	.0150	.....	.....	
19,300	96,500	.1750	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,500
Elastic limit per square inch of original section	do....	56,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do....	.002000
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		″.34*, ″.28*

No. 2227.

Marks, $\frac{32\ J_{12}}{B\ T_2 M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000900	.000200	.000050	.000050	
6,000	30,000	.001100	.000200	.000050	0.	
7,000	35,000	.001300	.000200	.000050	0.	
8,000	40,000	.001450	.000150	.000050	0.	
9,000	45,000	.001600	.000150	.000100	.000050	
10,000	50,000	.001750	.000150	.000100	0.	
10,200	51,000	.001750	0.	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	
10,600	53,000	.001850	.000050	.....	.....	Elastic limit.
10,800	54,000	.002750	.000900	.....	.....	
11,000	55,000	.012800	.010050	.....	.....	
11,200	56,000	.013750	.000950	.....	.....	
11,400	57,000	.014750	.001000	.....	.....	
11,600	58,000	.015500	.000750	.....	.....	
11,800	59,000	.016100	.000600	.....	.....	
12,000	60,000	.017250	.001150	.....	.....	
12,400	62,000	.019700	.002450	.....	.....	
12,800	64,000	.022250	.002550	.....	.....	
13,200	66,000	.024250	.002000	.....	.....	
13,600	68,000	.027250	.003000	.....	.....	
14,000	70,000	.029500	.002250	.....	.....	
14,400	72,000	.032700	.003200	.....	.....	
14,800	74,000	.036500	.003800	.....	.....	
15,200	76,000	.040600	.004100	.....	.....	
15,600	78,000	.045600	.005000	.....	.....	
16,000	80,000	.052000	.006400	.....	.....	
16,400	82,000	.058750	.006750	.....	.....	
16,800	84,000	.0650	.006250	.....	.....	
17,200	86,000	.0800	.0150	.....	.....	
17,600	88,000	.1000	.0200	.....	.....	
18,000	90,000	.1500	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,000
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2850
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		1″.2 from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.23, ″.34*

No. 618.

Marks, $\frac{32\ J_{12}}{B\ T_2\ M}$
Length, 4.″496.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.		
5,000	10,000	.000300	.000150	0.		
7,500	15,000	.000500	.000200	0.		
10,000	20,000	.000700	.000200	0.		
12,500	25,000	.000900	.000200	0.		
15,000	30,000	.001000	.000100	0.		
17,500	35,000	.001200	.000200	0.		
20,000	40,000	.001400	.000200	.000050	.000050	
22,500	45,000	.001550	.000150	.000050	0.	
23,000	46,000	.001550	0.			
23,500	47,000	.001600	.000050			
24,000	48,000	.001650	.000050			
24,500	49,000	.001700	.000050			
25,000	50,000	.001750	.000050	.000100	.000050	
25,500	51,000	.001800	.000050			
26,000	52,000	.001850	.000050			
26,500	53,000	.001900	.000050			
27,000	54,000	.001950	.000050			
27,500	55,000	.002000	.000050	.000250	.000150	Elastic limit.
28,000	56,000	.007050	.005050			
28,500	57,000	.007300	.000250			
29,000	58,000	.007800	.000500			
29,500	59,000	.008400	.000600			
30,000	60,000	.009050	.000650			
45,800	91,600					Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	55,000
Compression per inch under stress at elastic limit	inch..	0.002000
Ultimate strength per square inch of original section	pounds..	91,600
Manner of failure		triple flexure

No. 2078.

Marks, $\frac{32\ J_{12}}{B\ T,\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.*		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001400	.000150	0.	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001550	.000100	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	
10,000	50,000	.001750	.000100	.000050	.000050	Elastic limit.
10,200	51,000	.002100	.000350	.....	.....	
10,400	52,000	.002600	.000500	.....	.....	
10,600	53,000	.003100	.000500	.....	.....	
10,800	54,000	.003600	.000500	.....	.....	
11,000	55,000	.004150	.000550	.....	.....	
11,200	56,000	.004850	.000700	.....	.....	
11,400	57,000	.005850	.001000	.....	.....	
11,600	58,000	.006600	.000750	.....	.....	
11,800	59,000	.007650	.001050	.....	.....	
12,000	60,000	.008500	.000850	.....	.....	
12,400	62,000	.010250	.001750	.....	.....	
12,800	64,000	.012000	.001750	.....	.....	
13,200	66,000	.013950	.001950	.....	.....	
13,600	68,000	.015950	.002000	.....	.....	
14,000	70,000	.018000	.002150	.....	.....	
14,400	72,000	.020050	.002050	.....	.....	
14,800	74,000	.022850	.002800	.....	.....	
15,200	76,000	.025300	.002450	.....	.....	
15,600	78,000	.027800	.002500	.....	.....	
16,000	80,000	.030850	.003050	.....	.....	
16,400	82,000	.034000	.003150	.....	.....	
16,800	84,000	.037800	.003800	.....	.....	
17,200	86,000	.041600	.003800	.....	.....	
17,600	88,000	.046750	.005150	.....	.....	
18,000	90,000	.053000	.006250	.....	.....	
18,400	92,000	.060500	.007500	.....	.....	
18,800	94,000	.0800	.0195	.....	.....	
19,110	95,550	.1050	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,550
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do....	.001750
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from middle of stem
Character of broken surface		silky center; granular at circumference
Elongation of inch sections		".30*, ".08

No. 2079.

Marks, $\frac{32\ J_{12}}{B\ T_2\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.	.....	
2,000	10,000	.000150	.000100	0.	.....	
3,000	15,000	.000250	.000100	0.	.....	
4,000	20,000	.000350	.000100	0.	.....	
5,000	25,000	.000550	.000200	0.	.....	
6,000	30,000	.000700	.000150	0.	.....	
7,000	35,000	.000850	.000150	0.	.....	
8,000	40,000	.001050	.000200	0.	.....	
9,000	45,000	.001250	.000200	0.	.....	
9,200	46,000	.001300	.000050	.....	.....	
9,400	47,000	.001350	.000050	.....	.....	
9,600	48,000	.001400	.000050	.....	.....	
9,800	49,000	.001450	.000050	.....	.....	
10,000	50,000	.001550	.000100	.000050	.000050	
10,200	51,000	.001650	.000100	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	Elastic limit.
10,600	53,000	.001850	.000150	.....	.....	
10,800	54,000	.002100	.000250	.....	.....	
11,000	55,000	.002550	.000450	.....	.....	
11,200	56,000	.003200	.000650	.....	.....	
11,400	57,000	.003800	.000600	.....	.....	
11,600	58,000	.004700	.000900	.....	.....	
11,800	59,000	.005600	.000900	.....	.....	
12,000	60,000	.006650	.001050	.....	.....	
12,400	62,000	.008150	.001500	.....	.....	
12,800	64,000	.010000	.001850	.....	.....	
13,200	66,000	.012100	.002100	.....	.....	
13,600	68,000	.014500	.002400	.....	.....	
14,000	70,000	.016250	.001750	.....	.....	
14,400	72,000	.018200	.001950	.....	.....	
14,800	74,000	.020850	.002650	.....	.....	
15,200	76,000	.023500	.002650	.....	.....	
15,600	78,000	.025600	.002100	.....	.....	
16,000	80,000	.028400	.002800	.....	.....	
16,400	82,000	.031600	.003200	.....	.....	
16,800	84,000	.034800	.003200	.....	.....	
17,200	86,000	.039000	.004200	.....	.....	
17,600	88,000	.043000	.004000	.....	.....	
18,000	90,000	.048250	.005250	.....	.....	
18,400	92,000	.054900	.006650	.....	.....	
18,800	94,000	.063500	.008600	.....	.....	
19,200	96,000	.0850	.0215	.....	.....	
19,510	97,550	.1150	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,550
Elastic limit per square inch of original section	do....	52,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		½ inch from neck
Character of broken surface		granular; dull center
Elongation of inch sections		".26", ".12

No. 609.

Marks, $\frac{32 J_{13}}{B T_5 M}$
Length, 4″.496.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001050	.000200	0.	.....	
20,000	40,000	.001250	.000200	0.	.....	
22,500	45,000	.001450	.000200	0.	.....	
23,000	46,000	.001500	.000050	.....	.....	
23,500	47,000	.001500	0.	.....	.....	
24,000	48,000	.001550	.000050	.....	.....	
24,500	49,000	.001600	.000050	.....	.....	
25,000	50,000	.001650	.000050	0.	.....	
25,500	51,000	.001750	.000100	.....	.....	
26,000	52,000	.001800	.000050	.....	.....	
26,500	53,000	.001850	.000050	.....	.....	
27,000	54,000	.001900	.000050	.....	.....	Elastic limit.
27,500	55,000	.002000	.000100	.000200	.000200	
28,000	56,000	.002250	.000250	.....	.....	
28,500	57,000	.002400	.000150	.....	.....	
29,000	58,000	.002600	.000200	.....	.....	
29,500	59,000	.003000	.000400	.....	.....	
30,000	60,000	.003550	.000550	.001450	.001250	
30,500	61,000	.004250	.000700	.....	.....	
31,000	62,000	.004900	.000650	.....	.....	
31,500	63,000	.005550	.000650	.....	.....	
32,000	64,000	.006300	.000750	.....	.....	
32,500	65,000	.007150	.000850	.001750	.003300	
49,900	99,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.001900
Ultimate strength per square inch of original section	pounds..	99,800
Manner of failure		triple flexure

No. 2088.

Marks, $\frac{32\ J_{14}}{B\ T_1\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001550	.000200	0.	.....	
9,200	46,000	.001550	0.	.....	.....	
9,400	47,000	.001550	0.	.....	.....	
9,600	48,000	.001650	.000100	.....	.....	
9,800	49,000	.001650	0.	.....	.....	
10,000	50,000	.001700	.000050	0.	.....	
10,200	51,000	.001700	0.	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	Elastic limit.
10,800	54,000	.007000	.005200	.....	.....	
11,000	55,000	.008000	.001000	.....	.....	
11,200	56,000	.009250	.001250	.....	.....	
11,400	57,000	.010050	.000800	.....	.....	
11,600	58,000	.010600	.000550	.....	.....	
11,800	59,000	.011350	.000750	.....	.....	
12,000	60,000	.012100	.000750	.....	.....	
12,400	62,000	.014050	.001950	.....	.....	
12,800	64,000	.016000	.001950	.....	.....	
13,200	66,000	.018000	.002000	.....	.....	
13,600	68,000	.020000	.002000	.....	.....	
14,000	70,000	.023000	.003000	.....	.....	
14,400	72,000	.025600	.002600	.....	.....	
14,800	74,000	.027850	.002250	.....	.....	
15,200	76,000	.031050	.003200	.....	.....	
15,600	78,000	.034250	.003200	.....	.....	
16,000	80,000	.038250	.004000	.....	.....	
16,400	82,000	.042500	.004250	.....	.....	
16,800	84,000	.047250	.004750	.....	.....	
17,200	86,000	.053500	.006250	.....	.....	
17,600	88,000	.061750	.008250	.....	.....	
18,000	90,000	.0700	.008250	.....	.....	
18,400	92,000	.0900	.0200	.....	.....	
18,720	93,600	.1200	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,600
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".35 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".32," ".10

No. 2089.

Marks, $\frac{32\ J\ 14}{B\ T_2\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000550	.000250	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001550	.000200	.000050	.000050	
9,200	46,000	.001550	0.	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	
9,600	48,000	.001650	.000050	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	
10,000	50,000	.001700	0.	.000050	0.	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001750	0.	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001850	.000050	.....	.....	Elastic limit.
11,000	55,000	.007500	.005650	.....	.....	
11,200	56,000	.008100	.000600	.....	.....	
11,400	57,000	.008900	.000800	.....	.....	
11,600	58,000	.010000	.001100	.....	.....	
11,800	59,000	.010500	.000500	.....	.....	
12,000	60,000	.011000	.000500	.....	.....	
12,400	62,000	.012400	.001400	.....	.....	
12,800	64,000	.014250	.001850	.....	.....	
13,200	66,000	.016050	.001800	.....	.....	
13,600	68,000	.018050	.002000	.....	.....	
14,000	70,000	.020600	.002550	.....	.....	
14,400	72,000	.022750	.002150	.....	.....	
14,800	74,000	.025600	.002850	.....	.....	
15,200	76,000	.028000	.002400	.....	.....	
15,600	78,000	.031500	.003500	.....	.....	
16,000	80,000	.035000	.003500	.....	.....	
16,400	82,000	.039000	.004000	.....	.....	
16,800	84,000	.043000	.004000	.....	.....	
17,200	86,000	.048500	.005500	.....	.....	
17,600	88,000	.054750	.006250	.....	.....	
18,000	90,000	.062250	.007500	.....	.....	
18,400	92,000	.0700	.007750	.....	.....	
18,800	94,000	.0900	.0200	.....	.....	
19,060	95,300	.1300	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,300
Elastic limit per square inch of original section	do....	54,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from middle of stem
Character of broken surface		silky; traces of granular metal
Elongation of inch sections		".31", ".14

No. 611.

Marks, $\frac{32\ J_{14}}{B\ T_3\ M}$
Length, 4″.498.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds	*Pounds.*	*Inch.*	*Inch.*	*Inch*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000500	.000200	.000050	.000050	
10,000	20,000	.000650	.000150	.000050	0.	
12,500	25,000	.000800	.000150	.000050	0.	
15,000	30,000	.001000	.000200	.000050	0.	
17,500	35,000	.001150	.000150	.000100	.000050	
20,000	40,000	.001350	.000200	.000050	.000050	
20,500	41,000	.001350	0.	.....	.....	
21,000	42,000	.001400	.000050	.....	.....	
21,500	43,000	.001450	.000050	.....	.....	
22,000	44,000	.001500	.000050	.....	.....	
22,500	45,000	.001500	0.	.000100	.000050	
23,000	46,000	.001550	.000050	.....	.....	Elastic limit.
23,500	47,000	.001700	.000150	.....	.....	
24,000	48,000	.001750	.000050	.....	.....	
24,500	49,000	.001900	.000150	.....	.....	
25,000	50,000	.004400	.002500	.....	.....	
46,000	92,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	46,000
Compression per inch under stress at elastic limit	inch..	0.001550
Ultimate strength per square inch of original section	pounds..	92,000
Manner of failure		triple flexure

No. 2228.

Marks, $\frac{32\ J_{18}}{M\ T_1 M}$
Diameter ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000900	.000200	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001400	.000200	0.	.....	
9,000	45,000	.001550	.000150	0.	.....	
10,000	50,000	.001700	.000150	0.	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	
10,600	53,000	.001850	.000050	.....	.....	Elastic limit.
10,800	54,000	.002050	.000200	.....	.....	
11,000	55,000	.002300	.000250	.....	.....	
11,200	56,000	.003050	.000750	.....	.....	
11,400	57,000	.003750	.000700	.....	.....	
11,600	58,000	.004700	.000950	.....	.....	
11,800	59,000	.005500	.000800	.....	.....	
12,000	60,000	.006200	.000700	.....	.....	
12,400	62,000	.007750	.001550	.....	.....	
12,800	64,000	.009600	.001850	.....	.....	
13,200	66,000	.011000	.001400	.....	.....	
13,600	68,000	.012850	.001850	.....	.....	
14,000	70,000	.014550	.001900	.....	.....	
14,400	72,000	.016250	.001700	.....	.....	
14,800	74,000	.018100	.001850	.....	.....	
15,200	76,000	.020000	.001900	.....	.....	
15,600	78,000	.022050	.002050	.....	.....	
16,000	80,000	.024500	.002450	.....	.....	
16,400	82,000	.027500	.003000	.....	.....	
16,800	84,000	.030150	.002650	.....	.....	
17,200	86,000	.033250	.003100	.....	.....	
17,600	88,000	.036000	.002750	.....	.....	
18,000	90,000	.039700	.003700	.....	.....	
18,400	92,000	.045000	.005300	.....	.....	
18,800	94,000	.050750	.005750	.....	.....	
19,200	96,000	.0600	.009250	.....	.....	
19,600	98,000	.0650	.0050	.....	.....	
20,000	100,000	.0850	.0200	.....	.....	
20,310	101,550	.1200	.0350	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8613
Tensile strength per square inch of original section	pounds..	101,550
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do....	.001850
Reduction in diameter at point of rupture	do....	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		".1 from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		".27", ".15

No. 2229.

Marks, $^{32\ J_{11}}_{M\ T_2\ M}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000500	.000250	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	.000050	.000050	
9,000	45,000	.001550	.000200	.000050	0.	
10,000	50,000	.001900	.000350	.000100	.000050	Elastic limit.
10,200	51,000	.002100	.000200	.....	.....	
10,400	52,000	.002550	.000450	.....	.....	
10,600	53,000	.003050	.000500	.....	.....	
10,800	54,000	.003750	.000700	.....	.....	
11,000	55,000	.004350	.000600	.....	.....	
11,200	56,000	.005150	.000800	.....	.....	
11,400	57,000	.005900	.000750	.....	.....	
11,600	58,000	.006600	.000700	.....	.....	
11,800	59,000	.007350	.000750	.....	.....	
12,000	60,000	.008150	.000800	.....	.....	
12,400	62,000	.009750	.001600	.....	.....	
12,800	64,000	.011000	.001250	.....	.....	
13,200	66,000	.012700	.001700	.....	.....	
13,600	68,000	.014350	.001650	.....	.....	
14,000	70,000	.016300	.001950	.....	.....	
14,400	72,000	.018100	.001800	.....	.....	
14,800	74,000	.019750	.001650	.....	.....	
15,200	76,000	.021500	.001750	.....	.....	
15,600	78,000	.024250	.002750	.....	.....	
16,000	80,000	.026250	.002000	.....	.....	
16,400	82,000	.029000	.002750	.....	.....	
16,800	84,000	.032000	.003000	.....	.....	
17,200	86,000	.035000	.003000	.....	.....	
17,600	88,000	.038250	.003250	.....	.....	
18,000	90,000	.042700	.004450	.....	.....	
18,400	92,000	.047000	.005200	.....	.....	
18,800	94,000	.055250	.007350	.....	.....	
19,200	96,000	.0600	.004750	.....	.....	
19,600	98,000	.0750	.0150	.....	.....	
20,000	100,000	.1050	.0300	.....	.....	
20,060	100,300	.1350	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,300
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do....	.001900
Reduction in diameter at point of rupture	do....	.104
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		".1 from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		".29", ".14

No. 619.

Marks, $\frac{32\ J_{14}}{M\ T_3\ M}$
Length, 4″.502.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000400	.000100	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000800	.000250	.000050	.000050	
15,000	30,000	.000950	.000150	.000050	0.	
17,500	35,000	.001050	.000100	.000050	0.	
20,000	40,000	.001250	.000200	.000050	0.	
20,500	41,000	.001250	0.	.....	.....	
21,000	42,000	.001300	.000050	.....	.....	
21,500	43,000	.001350	.000050	.....	.....	
22,000	44,000	.001400	.000050	.....	.....	
22,500	45,000	.001450	.000050	.000050	0.	
23,000	46,000	.001500	.000050	.....	.....	
23,500	47,000	.001500	.000050	.....	.....	
24,000	48,000	.001550	0.	.....	.....	
24,500	49,000	.001600	.000050	.....	.....	
25,000	50,000	.001650	.000050	0.	.000050	Elastic limit.
25,500	51,000	.001750	.000100	.....	.....	
26,000	52,000	.002000	.000250	.....	.....	
26,500	53,000	.003000	.001000	.....	.....	
27,000	54,000	.004250	.001250	.....	.....	
27,500	55,000	.005550	.001300	.003500	.003500	
49,500	99,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001650
Ultimate strength per square inch of original section	pounds..	99,000
Manner of failure		triple flexure

No. 2280.

Marks, $\frac{32\ J_{14}}{M\ T,\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001100	.000150	0.	.....	
7,000	35,000	.001200	.000100	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001500	.000150	0.	.....	
10,000	50,000	.001700	.000200	0.	.....	
10,200	51,000	.001700	0.	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001900	.000100	.....	.....	Elastic limit.
11,000	55,000	.002300	.000400	.....	.....	
11,200	56,000	.004000	.001700	.....	.....	
11,400	57,000	.005350	.001350	.....	.....	
11,600	58,000	.006250	.000900	.....	.....	
11,800	59,000	.007000	.000750	.....	.....	
12,000	60,000	.008000	.001000	.....	.....	
12,400	62,000	.009150	.001150	.....	.....	
12,800	64,000	.010600	.001450	.....	.....	
13,200	66,000	.012250	.001650	.....	.....	
13,600	68,000	.013900	.001650	.....	.....	
14,000	70,000	.015600	.001700	.....	.....	
14,400	72,000	.017300	.001700	.....	.....	
14,800	74,000	.019500	.002200	.....	.....	
15,200	76,000	.022000	.002500	.....	.....	
15,600	78,000	.023750	.001750	.....	.....	
16,000	80,000	.026000	.002250	.....	.....	
16,400	82,000	.028500	.002500	.....	.....	
16,800	84,000	.031000	.002500	.....	.....	
17,200	86,000	.034000	.003000	.....	.....	
17,600	88,000	.037500	.003500	.....	.....	
18,000	90,000	.042250	.004750	.....	.....	
18,400	92,000	.046000	.003750	.....	.....	
18,800	94,000	.052250	.006250	.....	.....	
19,200	96,000	.0600	.007750	.....	.....	
19,600	98,000	.0700	.0100	.....	.....	
20,000	100,000	.0950	.0250	.....	.....	
20,250	101,250	.1400	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	101,250
Elastic limit per square inch of original section	do....	54,000
Elongation per inch after rupture	inch..	0.1650
Elongation per inch under strain at elastic limit	do....	.001900
Reduction in diameter at point of rupture	do....	.065
Reduction in area after rupture, per centum of original section		23.9
Position of rupture		″.65 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.21*, ″.12

No. 2281.

Marks, $\frac{32\ J_{16}}{M\ T_2\ M}$.
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000700	.000300	0.	.....	
5,000	25,000	.000900	.000200	0.	.....	
6,000	30,000	.001000	.000100	0.	.....	
7,000	35,000	.001150	.000100	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
10,000	50,000	.001650	.000150	0.	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001800	.000100	.....	.....	
10,600	53,000	.001800	0.	.....	.....	
10,800	54,000	.001850	.000050	.....	.....	
11,000	55,000	.001900	.000050	.....	.....	
11,200	56,000	.002000	.000100	.....	.....	Elastic limit.
11,400	57,000	.002250	.000250	.....	.....	
11,600	58,000	.002750	.000500	.....	.....	
11,800	59,000	.003500	.000750	.....	.....	
12,000	60,000	.004250	.000750	.....	.....	
12,400	62,000	.005200	.000950	.....	.....	
12,800	64,000	.006250	.001050	.....	.....	
13,200	66,000	.007500	.001250	.....	.....	
13,600	68,000	.009500	.002000	.....	.....	
14,000	70,000	.011100	.001600	.....	.....	
14,400	72,000	.012600	.001500	.....	.....	
14,800	74,000	.014750	.002150	.....	.....	
15,200	76,000	.017600	.002850	.....	.....	
15,600	78,000	.020050	.002450	.....	.....	
16,000	80,000	.022700	.002650	.....	.....	
16,400	82,000	.025600	.002900	.....	.....	
16,800	84,000	.029000	.003400	.....	.....	
17,200	86,000	.033150	.004150	.....	.....	
17,600	88,000	.037750	.004600	.....	.....	
18,000	90,000	.042050	.004300	.....	.....	
18,400	92,000	.046000	.003950	.....	.....	
18,800	94,000	.0500	.0040	.....	.....	
19,200	96,000	.0700	.0200	.....	.....	
19,600	98,000	.0950	.0250	.....	.....	
19,810	99,050	.1450	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,050
Elastic limit per square inch of original section	do....	56,000
Elongation per inch after rupture	inch..	0.2200
Elongation per inch under strain at elastic limit	do ...	.002000
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		″.60 from neck
Character of broken surface		silky, in part interspersed with fine granulation
Elongation of inch sections		″.31*, ″.13

No. 636.

Marks, $\frac{32\ J_{16}}{M\ T_8\ M}$
Length, 4″.508.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000167	.000167	0.		
5,000	10,000	.000333	.000166	0.	.....	
7,500	15,000	.000500	.000167	0.	.....	
10,000	20,000	.000667	.000167	0.	.....	
12,500	25,000	.000833	.000166	0.	.....	
15,000	30,000	.001000	.000167	0.	.....	
17,500	35,000	.001167	.000167	0.	.....	
20,000	40,000	.001333	.000166	0.	.....	
22,500	45,000	.001533	.000200	.000033	.000033	
25,000	50,000	.001700	.000167	.000033	0.	
25,500	51,000	.001733	.000033	.....	.....	
26,000	52,000	.001767	.000034	.....	.....	
26,500	53,000	.001800	.000033	.....	.....	
27,000	54,000	.001833	.000033	.....	.....	
27,500	55,000	.001900	.000067	.000067	.000034	
28,000	56,000	.001933	.000033	.....	.....	
28,500	57,000	.002000	.000667	.....	.....	Elastic limit.
29,000	58,000	.007800	.005800	.....	.....	
29,500	59,000	.009033	.001233	.....	.....	
30,000	60,000	.010033	.001000	.....	.....	
48,010	96,020	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	57,000
Compression per inch under stress at elastic limit	inch..	0.002000
Ultimate strength per square inch of original section	pounds..	96,020
Manner of failure		triple flexure

No. 2080.

Marks, $\frac{32\ J_W}{B\ T,\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000550	.000250	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001350	.000100	0.	.....	
9,000	45,000	.001450	.000100	0.	.....	
9,200	46,000	.001550	.000100	.....	.....	
9,400	47,000	.001650	.000100	.....	.....	
9,600	48,000	.001750	.000100	.....	.....	Elastic limit.
9,800	49,000	.002100	.000350	.....	.....	
10,000	50,000	.002800	.000700	.....	.....	
10,200	51,000	.003400	.000600	.....	.....	
10,400	52,000	.003900	.000500	.....	.....	
10,600	53,000	.004650	.000750	.....	.....	
10,800	54,000	.005300	.000650	.....	.....	
11,000	55,000	.006200	.000900	.....	.....	
11,200	56,000	.007050	.000850	.....	.....	
11,400	57,000	.008100	.001050	.....	.....	
11,600	58,000	.008700	.000600	.....	.....	
11,800	59,000	.009600	.000900	.....	.....	
12,000	60,000	.010300	.000700	.....	.....	
12,400	62,000	.012050	.001750	.....	.....	
12,800	64,000	.013900	.001850	.....	.....	
13,200	66,000	.015800	.001900	.....	.....	
13,600	68,000	.017850	.002050	.....	.....	
14,000	70,000	.020000	.002150	.....	.....	
14,400	72,000	.022400	.002400	.....	.....	
14,800	74,000	.024900	.002500	.....	.....	
15,200	76,000	.027500	.002600	.....	.....	
15,600	78,000	.031500	.004000	.....	.....	
16,000	80,000	.034500	.003000	.....	.....	
16,400	82,000	.038000	.003500	.....	.....	
16,800	84,000	.041600	.003600	.....	.....	
17,200	86,000	.046800	.005200	.....	.....	
17,600	88,000	.052000	.005200	.....	.....	
18,000	90,000	.060100	.008100	.....	.....	
18,400	92,000	.0750	.0149	.....	.....	
18,800	94,000	.0900	.0150	.....	.....	
19,120	95,600	.1300	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,600
Elastic limit per square inch of original section	do...	48,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		″.40 from middle of stem
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		″.27*, ″.15

No. 2081.

Marks, $\frac{32\ J_{11}}{B\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001200	.000250	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001500	.000150	0.	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	
9,600	48,000	.001700	.000100	.....	.....	Elastic limit.
9,800	49,000	.002100	.000400	.....	.....	
10,000	50,000	.002650	.000550	.....	.....	
10,200	51,000	.003250	.000600	.....	.....	
10,400	52,000	.003950	.000700	.....	.....	
10,600	53,000	.004550	.000600	.....	.....	
10,800	54,000	.005200	.000650	.....	.....	
11,000	55,000	.006050	.000850	.....	.....	
11,200	56,000	.006750	.000700	.....	.....	
11,400	57,000	.007450	.000700	.....	.....	
11,600	58,000	.008250	.000800	.....	.....	
11,800	59,000	.009100	.000850	.....	.....	
12,000	60,000	.010000	.000900	.....	.....	
12,400	62,000	.011550	.001550	.....	.....	
12,800	64,000	.013250	.001700	.....	.....	
13,200	66,000	.015200	.001950	.....	.....	
13,600	68,000	.017100	.001900	.....	.....	
14,000	70,000	.019250	.002150	.....	.....	
14,400	72,000	.021500	.002250	.....	.....	
14,800	74,000	.023600	.002100	.....	.....	
15,200	76,000	.026350	.002750	.....	.....	
15,600	78,000	.028650	.002200	.....	.....	
16,000	80,000	.032300	.003650	.....	.....	
16,400	82,000	.036000	.003700	.....	.....	
16,800	84,000	.040250	.004250	.....	.....	
17,200	86,000	.044250	.004000	.....	.....	
17,600	88,000	.048500	.004250	.....	.....	
18,000	90,000	.055000	.006500	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0800	.0150	.....	.....	
19,200	96,000	.0950	.0150	.....	.....	
19,340	96,700	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,700
Elastic limit per square inch of original section	do...	48,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from middle of stem
Character of broken surface		silky; interspersed with fine granulation
Elongation of inch sections		″.29, ″.13

No. 610.

Marks, $\frac{33\ J_{IV}}{B\ T_3\ M}$
Length, 4″.502.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000600	.000200	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000950	.000200	0.	.....	
17,500	35,000	.001100	.000150	0.	.....	
20,000	40,000	.001250	.000150	0.	.....	
20,500	41,000	.001250	0.	.....	.....	
21,000	42,000	.001300	.000050	.....	.....	
21,500	43,000	.001300	0.	.....	.....	
22,000	44,000	.001350	.000050	.....	.....	
22,500	45,000	.001350	0.	— .000050	— .000050	
23,000	46,000	.001350	0.	.....	.....	
23,500	47,000	.001300	— .000050	.....	.....	Elastic limit.
24,000	48,000	.002000	.000700	.....	.....	
24,500	49,000	.002800	.000800	.....	.....	
25,000	50,000	.003500	.000700	.001800	.001850	
25,500	51,000	.004000	.000500	.....	.....	
26,000	52,000	.004750	.000750	.....	.....	
26,500	53,000	.005320	.000600	.....	.....	
27,000	54,000	.006100	.000750	.....	.....	
27,500	55,000	.006750	.000650	.004850	.003050	
44,800	89,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	47,000
Compression per inch under stress at elastic limit	inch..	0.001300
Ultimate strength per square inch of original section	pounds..	89,600
Manner of failure		triple flexure

[Additional specimens.]

No. 2545.

Marks, $\frac{32\ J_{17}}{M\ T_4\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000850	.000100	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001350	.000200	.....	.....	
10,000	50,000	.001600	.000250	.....	.....	
10,200	51,000	.001700	.000100	.....	.....	
10,400	52,000	.001800	.000100	.....	.....	Elastic limit.
10,600	53,000	.002100	.000300	.....	.....	
10,800	54,000	.002300	.000200	.....	.....	
11,000	55,000	.002800	.000500	.....	.....	
11,200	56,000	.003100	.000300	.....	.....	
11,400	57,000	.003700	.000600	.....	.....	
11,600	58,000	.004050	.000350	.....	.....	
11,800	59,000	.004650	.006600	.....	.....	
12,000	60,000	.005500	.000850	.....	.....	
12,400	62,000	.006750	.001250	.....	.....	
12,800	64,000	.008200	.001450	.....	.....	
13,200	66,000	.009750	.001550	.....	.....	
13,600	68,000	.011600	.001850	.....	.....	
14,000	70,000	.013750	.002150	.....	.....	
14,400	72,000	.015300	.001550	.....	.....	
14,800	74,000	.017000	.001700	.....	.....	
15,200	76,000	.019050	.002050	.....	.....	
15,600	78,000	.020850	.001800	.....	.....	
16,000	80,000	.023200	.002350	.....	.....	
16,400	82,000	.025600	.002400	.....	.....	
16,800	84,000	.028250	.002650	.....	.....	
17,200	86,000	.031050	.002800	.....	.....	
17,600	88,000	.034300	.003250	.....	.....	
18,000	90,000	.037550	.003250	.....	.....	
18,400	92,000	.041750	.004200	.....	.....	
18,800	94,000	.047000	.005250	.....	.....	
19,200	96,000	.0550	.0080	.....	.....	
19,600	98,000	.0600	.0050	.....	.....	
20,000	100,000	.0700	.0100	.....	.....	
20,400	102,000	.0950	.0250	.....	.....	
20,480	102,400	.1050	.0100	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	102,400
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		″.35 from neck
Character of broken surface		dull silky
Elongations of inch sections		″.25*, ″.11

No. 2546.

Marks, $\frac{32\ J_1'}{M\ T_3 M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	.....	.....	
9,200	46,000	.001600	.000100	.....	.....	
9,400	47,000	.001650	.000050	.....	.....	
9,600	48,000	.001700	.000050	.....	.....	Elastic limit.
9,800	49,000	.002000	.000300	.....	.....	
10,000	50,000	.002700	.000700	.....	.....	
10,200	51,000	.004000	.001300	.....	.....	
10,400	52,000	.004450	.000450	.....	.....	
10,600	53,000	.004750	.000300	.....	.....	
10,800	54,000	.005650	.000900	.....	.....	
11,000	55,000	.006200	.000550	.....	.....	
11,200	56,000	.007000	.000800	.....	.....	
11,400	57,000	.007800	.000800	.....	.....	
11,600	58,000	.008600	.000800	.....	.....	
11,800	59,000	.009250	.000650	.....	.....	
12,000	60,000	.010150	.000900	.....	.....	
12,400	62,000	.012050	.001900	.....	.....	
12,800	64,000	.014700	.002650	.....	.....	
13,200	66,000	.016650	.001950	.....	.....	
13,600	68,000	.018550	.001900	.....	.....	
14,000	70,000	.020600	.002050	.....	.....	
14,400	72,000	.023100	.002500	.....	.....	
14,800	74,000	.026300	.003200	.....	.....	
15,200	76,000	.029000	.002700	.....	.....	
15,600	78,000	.031250	.002250	.....	.....	
16,000	80,000	.035000	.003750	.....	.....	
16,400	82,000	.039000	.004000	.....	.....	
16,800	84,000	.043500	.004500	.....	.....	
17,200	86,000	.048750	.005250	.....	.....	
17,600	88,000	.0550	.006250	.....	.....	
18,000	90,000	.0650	.0100	.....	.....	
18,400	92,000	.0800	.0150	.....	.....	
18,800	94,000	.1000	.0200	.....	.....	
18,900	94,500	.1300	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,500
Elastic limit per square inch of original section	do...	48,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		″.85 from neck
Character of broken surface		dull silky
Elongation of inch sections		″.29, ″.16

No. 658.

Marks, $\frac{32\ J\ V}{M\ Te\ M}$
Length, 4″.505.
Diameter, ″.798.
Sectional area, ″.50.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000067	.000067	— .000033	— .000033	
5,000	10,000	.000233	.000166	— .000033	0.	
7,500	15,000	.000367	.000134	— .000067	— .000034	
10,000	20,000	.000567	.000200	— .000067	0.	
12,500	25,000	.000733	.000166	— .000067	0.	
15,000	30,000	.000900	.000167	— .000067	0.	
17,500	35,000	.001067	.000967	.....	.....	
20,000	40,000	.001233	.000166	.....	.....	
22,500	45,000	.001400	.000167	.....	.....	
23,000	46,000	.001433	.000033	.....	.....	
23,500	47,000	.001500	.000067	.....	.....	
24,000	48,000	.001533	.000033	.....	.....	
24,500	49,000	.001567	.000034	.....	.....	Elastic limit.
25,000	50,000	.001667	.000100	.....	.....	
25,500	51,000	.001800	.000133	.....	.....	
26,000	52,000	.001967	.000167	.....	.....	
26,500	53,000	.002167	.000200	.....	.....	
27,000	54,000	.002333	.000166	.....	.....	
27,500	55,000	.002600	.000267	.....	.....	
28,000	56,000	.002867	.000367	.....	.....	
28,500	57,000	.003200	.000233	.....	.....	
29,000	58,000	.003700	.000500	.....	.....	
49,960	99,920	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	49,000
Compression per inch under stress at elastic limit	inch..	0.001567
Ultimate strength per square inch of original section	pounds..	99,920
Manner of failure		triple flexure

No. 2076.

Marks, $\frac{32\ J_{18}}{B\ T_1\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000900	.000250	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001500	.000150	0.	.....	Elastic limit.
9,200	46,000	.001700	.000200	.....	.....	
9,400	47,000	.001900	.000200	.....	.....	
9,600	48,000	.002400	.000500	.....	.....	
9,800	49,000	.003100	.000700	.....	.....	
10,000	50,000	.003750	.000650	.....	.....	
10,200	51,000	.004550	.000800	.....	.....	
10,400	52,000	.005150	.000600	.....	.....	
10,600	53,000	.006050	.000900	.....	.....	
10,800	54,000	.006600	.000550	.....	.....	
11,000	55,000	.007450	.000850	.....	.....	
11,200	56,000	.008200	.000750	.....	.....	
11,400	57,000	.009100	.000900	.....	.....	
11,600	58,000	.009900	.000800	.....	.....	
11,800	59,000	.010600	.000700	.....	.....	
12,000	60,000	.011550	.000950	.....	.....	
12,400	62,000	.013200	.001650	.....	.....	
12,800	64,000	.015500	.002300	.....	.....	
13,200	66,000	.017350	.001750	.....	.....	
13,600	68,000	.019000	.001650	.....	.....	
14,000	70,000	.021550	.002550	.....	.....	
14,400	72,000	.024000	.002450	.....	.....	
14,800	74,000	.026250	.002250	.....	.....	
15,200	76,000	.028750	.002500	.....	.....	
15,600	78,000	.031750	.003000	.....	.....	
16,000	80,000	.035000	.003250	.....	.....	
16,400	82,000	.039600	.004600	.....	.....	
16,800	84,000	.044000	.004400	.....	.....	
17,200	86,000	.049250	.005250	.....	.....	
17,600	88,000	.055750	.006500	.....	.....	
18,000	90,000	.0650	.009250	.....	.....	
18,400	92,000	.0850	.0200	.....	.....	
18,800	94,000	.1050	.0200	.....	.....	
18,890	94,450	.1350	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,450
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		½ inch from middle of stem
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		″.28*. ″.13

No. 2077.

Marks, $\frac{32\ J_{13}}{B\ T_2\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001450	.000300	.000150	.000150	
9,200	46,000	.001450	0.	.....	.....	Elastic limit.
9,400	47,000	.001700	.000250	.....	.....	
9,600	48,000	.001800	.000100	.....	.....	
9,800	49,000	.002050	.000250	.....	.....	
10,000	50,000	.002700	.000650	.000900	.000750	
10,200	51,000	.003200	.000500	.....	.....	
10,400	52,000	.003950	.000750	.....	.....	
10,600	53,000	.004600	.000650	.....	.....	
10,800	54,000	.005500	.000900	.....	.....	
11,000	55,000	.006150	.000650	.....	.....	
11,200	56,000	.006900	.000750	.....	.....	
11,400	57,000	.007700	.000800	.....	.....	
11,600	58,000	.008450	.000750	.....	.....	
11,800	59,000	.009250	.000800	.....	.....	
12,000	60,000	.010000	.000750	.....	.....	
12,400	62,000	.011250	.001250	.....	.....	
12,800	64,000	.013650	.002400	.....	.....	
13,200	66,000	.015900	.002250	.....	.....	
13,600	68,000	.017150	.001250	.....	.....	
14,000	70,000	.019150	.002000	.....	.....	
14,400	72,000	.021300	.002150	.....	.....	
14,800	74,000	.024050	.002750	.....	.....	
15,200	76,000	.026200	.002150	.....	.....	
15,600	78,000	.029050	.002850	.....	.....	
16,000	80,000	.032400	.003250	.....	.....	
16,400	82,000	.035650	.003250	.....	.....	
16,800	84,000	.039250	.003600	.....	.....	
17,200	86,000	.043550	.004300	.....	.....	
17,600	88,000	.048400	.004850	.....	.....	
18,000	90,000	.054500	.006100	.....	.....	
18,400	92,000	.061900	.007400	.....	.....	
18,800	94,000	.0850	.0231	.....	.....	
19,200	96,000	.1000	.0150	.....	.....	
19,360	96,800	.1350	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,800
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001450
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		".55 from neck
Character of broken surface	granular, 50 per centum; silky, 50 per centum	
Elongation of inch sections		".28", ".12

No. 608.

Marks, $\overset{32\,J_{18}}{B\,T_2\,M}$
Length, 4.″
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001050	.000200	0.	.....	
20,000	40,000	.001250	.000200	0.	.....	
20,500	41,000	.001300	.000050	.....	.....	
21,000	42,000	.001350	.000050	.....	.....	
21,500	43,000	.001350	0.	.....	.....	
22,000	44,000	.001400	.000050	.....	.....	
22,500	45,000	.001500	.000100	0.	.....	
23,000	46,000	.001550	.000050	.....	.....	Elastic limit.
23,500	47,000	.001750	.000200	.....	.....	
24,000	48,000	.002000	.000250	.....	.....	
24,500	49,000	.002500	.000500	.....	.....	
25,000	50,000	.003000	.000500	.001500	.001500	
25,500	51,000	.003500	.000500	.....	.....	
26,000	52,000	.003850	.000350	.....	.....	
26,500	53,000	.004250	.000400	.....	.....	
27,000	54,000	.004750	.000500	.....	.....	
27,500	55,000	.005200	.000450	.003450	.001950	
52,200	104,400	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section .....pounds.. 46,000
Compression per inch under stress at elastic limit .....inch.. 0.001550
Ultimate strength per square inch of original section.....pounds.. 104,400
Manner of failure.....triple flexure

[Additional specimens.]

No. 2521.

Marks, $\frac{32\ J_{18}}{M\ T_4\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000850	.000100	0.	.....	
7,000	35,000	.001150	.000300	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001450	.000150	.....	.....	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001500	0.	.....	.....	
9,600	48,000	.001550	.000050	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	Elastic limit.
10,000	50,000	.001900	.000300	.....	.....	
10,200	51,000	.002500	.000600	.....	.....	
10,400	52,000	.002800	.000300	.....	.....	
10,600	53,000	.003200	.000400	.....	.....	
10,800	54,000	.003700	.000500	.....	.....	
11,000	55,000	.004450	.000750	.....	.....	
11,200	56,000	.005000	.000550	.....	.....	
11,400	57,000	.005850	.000850	.....	.....	
11,600	58,000	.006500	.000650	.....	.....	
11,800	59,000	.007250	.000750	.....	.....	
12,000	60,000	.008400	.001150	.....	.....	
12,400	62,000	.009700	.001300	.....	.....	
12,800	64,000	.011350	.001650	.....	.....	
13,200	66,000	.013250	.001900	.....	.....	
13,600	68,000	.014750	.001500	.....	.....	
14,000	70,000	.017000	.002250	.....	.....	
14,400	72,000	.019000	.002000	.....	.....	
14,800	74,000	.021050	.002050	.....	.....	
15,200	76,000	.023000	.001950	.....	.....	
15,600	78,000	.025600	.002600	.....	.....	
16,000	80,000	.028050	.002450	.....	.....	
16,400	82,000	.031100	.003050	.....	.....	
16,800	84,000	.034000	.029000	.....	.....	
17,200	86,000	.038000	.004000	.....	.....	
17,600	88,000	.042000	.004000	.....	.....	
18,000	90,000	.0450	.0030	.....	.....	
18,400	92,000	.0550	.0100	.....	.....	
18,800	94,000	.0650	.0100	.....	.....	
19,200	96,000	.0800	.0150	.....	.....	
19,600	98,000	.1000	.0200	.....	.....	
19,740	98,700	.1150	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,700
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.1550
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.065
Reduction in area after rupture, per centum of original section		23.9
Position of rupture		½ inch from neck
Character of broken surface	granular, 60 per centum; silky, 40 per centum	
Elongation of inch sections		".21", ".10

No. 2522.

Marks, $\frac{22\ J_{10}}{M\ T_5 M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001550	.000200	.....	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001600	0.	.....	.....	
9,600	48,000	.001650	.000050	.....	.....	
9,800	49,000	.001800	.000150	.....	.....	Elastic limit.
10,000	50,000	.002000	.000200	.....	.....	
10,200	51,000	.002250	.000250	.....	.....	
10,400	52,000	.002500	.000250	.....	.....	
10,600	53,000	.003200	.000700	.....	.....	
10,800	54,000	.003550	.000350	.....	.....	
11,000	55,000	.003850	.000300	.....	.....	
11,200	56,000	.004550	.000700	.....	.....	
11,400	57,000	.005400	.000850	.....	.....	
11,600	58,000	.006050	.000650	.....	.....	
11,800	59,000	.006550	.000500	.....	.....	
12,000	60,000	.007400	.000850	.....	.....	
12,400	62,000	.009300	.001900	.....	.....	
12,800	64,000	.010650	.001350	.....	.....	
13,200	66,000	.012600	.001950	.....	.....	
13,600	68,000	.014250	.001650	.....	.....	
14,000	70,000	.016500	.002250	.....	.....	
14,400	72,000	.018550	.002050	.....	.....	
14,800	74,000	.020600	.002050	.....	.....	
15,200	76,000	.022600	.002000	.....	.....	
15,600	78,000	.025000	.002400	.....	.....	
16,000	80,000	.027250	.002250	.....	.....	
16,400	82,000	.029750	.002500	.....	.....	
16,800	84,000	.033100	.003350	.....	.....	
17,200	86,000	.036500	.003400	.....	.....	
17,600	88,000	.040000	.003500	.....	.....	
18,000	90,000	.046000	.006000	.....	.....	
18,400	92,000	.0500	.0040	.....	.....	
18,800	94,000	.0550	.0050	.....	.....	
19,200	96,000	.0600	.0050	.....	.....	
19,600	98,000	.0700	.0100	.....	.....	
20,000	100,000	.0950	.0250	.....	.....	
20,080	100,400	.1200	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,400
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		57.1
Position of rupture		1 inch from neck
Character of broken surface		silky, with traces of granulation
Elongation of inch sections		".13, ".27*

No. 650.

Marks, $\frac{32\ J_{16}}{M\ T_6\ M}$
Length, 4″.505.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000267	.000167	0.	.....	
7,500	15,000	.000433	.000166	0.	.....	
10,000	20,000	.000600	.000167	0.	.....	
12,500	25,000	.000800	.000200	0.	.....	
15,000	30,000	.000967	.000167	0.	.....	
17,500	35,000	.001133	.000166	0.	.....	
20,000	40,000	.001300	.000167	.000033	.000033	
20,500	41,000	.001333	.000033	.....	.....	
21,000	42,000	.001400	.000067	.....	.....	
21,500	43,000	.001433	.000033	.....	.....	
22,000	44,000	.001467	.000034	.....	.....	
22,500	45,000	.001533	.000066	.....	.....	
23,000	46,000	.001567	.000034	.....	.....	
23,500	47,000	.001600	.000033	.....	.....	
24,000	48,000	.001667	.000067	.....	.....	
24,500	49,000	.001700	.000033	.....	.....	
25,000	50,000	.001767	.000067	.....	.....	
25,500	51,000	.001867	.000100	.....	.....	Elastic limit.
26,000	52,000	.002033	.000166	.....	.....	
26,500	53,000	.002167	.000134	.....	.....	
27,000	54,000	.002333	.000166	.....	.....	
27,500	55,000	.002633	.000300	.....	.....	
28,000	56,000	.002833	.000200	.....	.....	
28,500	57,000	.003267	.000434	.....	.....	
29,000	58,000	.004067	.000800	.....	.....	
51,320	102,640	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	51,000
Compression per inch under stress at elastic limit	inch..	0.001867
Ultimate strength per square inch of original section	pounds..	102,640
Manner of failure		triple flexure

No. 2090.

Marks, $\frac{32\ J_{19}}{B\ T,\ M}$
Diameter, ″.505.
Sectional area, 20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.		0.	0.	Initial load.
1,000	5,000	.000100	0.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000600	.000150	0.	.....	
6,000	30,000	.000800	.000200	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001150	.000200	— .000050	— .000050	
9,000	45,000	.001300	.000150	— .000050	0.	
9,200	46,000	.001300	0.	.....	.....	
9,400	47,000	.001350	.000050	.....	.....	
9,600	48,000	.001400	.000050	.....	.....	
9,800	49,000	.001400	0.	.....	.....	
10,000	50,000	.001450	.000050	— .000050	0.	
10,200	51,000	.001500	.000050	.....	.....	
10,400	52,000	.001500	0.	.....	.....	
10,600	53,000	.001550	.000050	.....	.....	
10,800	54,000	.001600	.000050	.....	.....	
11,000	55,000	.001650	.000050	— .000050	0.	
11,200	56,000	.001700	.000050	.....	.....	
11,400	57,000	.001750	.000050	.....	.....	
11,600	58,000	.001750	0.	.....	.....	
11,800	59,000	.001800	.000050	.....	.....	
12,000	60,000	.001800	0.	— .000050	0.	
12,200	61,000	.001850	.000050	.....	.....	
12,400	62,000	.001850	0.	.....	.....	
12,600	63,000	.001900	.000050	.....	.....	Elastic limit.
12,800	64,000	.002050	.000150	.....	.....	
13,000	65,000	.002150	.000100	.....	.....	
13,200	66,000	.002800	.000650	.....	.....	
13,400	67,000	.003800	.001000	.....	.....	
13,600	68,000	.004350	.000550	.....	.....	
13,800	69,000	.005000	.000650	.....	.....	
14,000	70,000	.005600	.000600	.....	.....	
14,400	72,000	.007400	.001800	.....	.....	
14,800	74,000	.008600	.001200	.....	.....	
15,200	76,000	.010150	.001550	.....	.....	
15,600	78,000	.011750	.001600	.....	.....	
16,000	80,000	.013600	.001850	.....	.....	
16,400	82,000	.015600	.002000	.....	.....	
16,800	84,000	.017600	.002000	.....	.....	
17,200	86,000	.019350	.001750	.....	.....	
17,600	88,000	.021650	.002300	.....	.....	
18,000	90,000	.024550	.002900	.....	.....	
18,400	92,000	.026850	.002300	.....	.....	
18,800	94,000	.029500	.002650	.....	.....	
19,200	96,000	.032900	.003400	.....	.....	
19,600	98,000	.036500	.003600	.....	.....	
20,000	100,000	.040000	.003500	.....	.....	
20,400	102,000	.044750	.004750	.....	.....	
20,800	104,000	.0500	.005250	.....	.....	
21,200	106,000	.0600	.0100	.....	.....	
21,600	108,000	.0650	.0050	.....	.....	
21,960	109,800	.1050	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	109,800
Elastic limit per square inch of original section	do...	63,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		″.05 from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.22*, ″.15

No. 2091.

Marks, $\frac{32\ J_{10}}{B\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000550	.000200	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000800	.000100	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	
11,000	55,000	.001700	.000150	.....	.....	
11,200	56,000	.001700	0.	.....	.....	
11,400	57,000	.001750	.000050	.....	.....	
11,600	58,000	.001750	0.	.....	.....	Elastic limit.
11,800	59,000	.006400	.004650	.....	.....	
12,000	60,000	.007200	.000800	.....	.....	
12,400	62,000	.008550	.001350	.....	.....	
12,800	64,000	.010200	.001650	.....	.....	
13,200	66,000	.011750	.001550	.....	.....	
13,600	68,000	.013600	.001850	.....	.....	
14,000	70,000	.015350	.001750	.....	.....	
14,400	72,000	.017650	.002300	.....	.....	
14,800	74,000	.020000	.002350	.....	.....	
15,200	76,000	.022500	.002500	.....	.....	
15,600	78,000	.024750	.002250	.....	.....	
16,000	80,000	.027500	.002750	.....	.....	
16,400	82,000	.030300	.002800	.....	.....	
16,800	84,000	.033250	.002950	.....	.....	
17,200	86,000	.037500	.004250	.....	.....	
17,600	88,000	.041000	.003500	.....	.....	
18,000	90,000	.045600	.004600	.....	.....	
18,400	92,000	.051000	.005600	.....	.....	
18,800	94,000	.0600	.0090	.....	.....	
19,200	96,000	.0800	.0200	.....	.....	
19,600	98,000	.0900	.0100	.....	.....	
19,980	99,900	.1200	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,900
Elastic limit per square inch of original section	do...	58,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture	¼ inch from middle of stem	
Character of broken surface		silky
Elongation of inch sections		″.29*, ″.13

No. 612.

Marks, $\frac{22\ J_{10}}{B\ T_2\ M}$
Length, 4″.495.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000600	.000150	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000850	.000100	0.	.....	
17,500	35,000	.001000	.000150	0.	.....	
20,000	40,000	.001150	.000150	0.	.....	
22,500	45,000	.001350	.000200	0.	.....	
23,000	46,000	.001350	0.	.....	.....	
23,500	47,000	.001400	.000050	.....	.....	
24,000	48,000	.001450	.000050	.....	.....	
24,500	49,000	.001500	.000050	.....	.....	
25,000	50,000	.001500	0.	— .000050	— .000050	
25,500	51,000	.001500	0.	.....	.....	
26,000	52,000	.001550	.000050	.....	.....	
26,500	53,000	.001600	.000050	.....	.....	
27,000	54,000	.001600	0.	.....	.....	Elastic limit.
27,500	55,000	.003550	.001850	.002450	.002500	
28,000	56,000	.004900	.001350	.....	.....	
28,500	57,000	.005500	.000600	.....	.....	
29,000	58,000	.006250	.000750	.....	.....	
29,500	59,000	.007000	.000750	.....	.....	
30,000	60,000	.007500	.000500	.005350	.002900	
49,900	99,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.001000
Ultimate strength per square inch of original section	pounds..	99,800
Manner of failure		triple flexure

No. 2252.

Marks, $\frac{32\ J_{20}}{M\ T_1\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000500	.000100	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001350	.000250	0.	.....	
9,000	45,000	.001450	.000100	0.	.....	
10,000	50,000	.001550	.000100	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	Elastic limit.
10,600	53,000	.012000	.010350	.....	.....	
10,800	54,000	.012800	.000800	.....	.....	
11,000	55,000	.013500	.000700	.....	.....	
11,200	56,000	.014450	.000950	.....	.....	
11,400	57,000	.015000	.000550	.....	.....	
11,600	58,000	.016000	.001000	.....	.....	
11,800	59,000	.017250	.001250	.....	.....	
12,000	60,000	.018250	.001000	.....	.....	
12,400	62,000	.021000	.002750	.....	.....	
12,800	64,000	.023400	.002400	.....	.....	
13,200	66,000	.025800	.002400	.....	.....	
13,600	68,000	.029000	.003200	.....	.....	
14,000	70,000	.032000	.003000	.....	.....	
14,400	72,000	.035500	.003500	.....	.....	
14,800	74,000	.039650	.004150	.....	.....	
15,200	76,000	.042500	.002850	.....	.....	
15,600	78,000	.053000	.010500	.....	.....	
16,000	80,000	.059000	.006000	.....	.....	
16,400	82,000	.0700	.0110	.....	.....	
16,800	84,000	.0800	.0100	.....	.....	
17,200	86,000	.0950	.0150	.....	.....	
17,600	88,000	.1200	.0250	.....	.....	
17,700	88,500	.1500	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,500
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2450
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		1″ from neck
Character of broken surface		silky
Elongation of inch sections		″.16, ′.33

No. 2253.

Marks, $\frac{32\ J_{20}}{M\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000650	.000100	0.	.....	
6,000	30,000	.000850	.000200	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001450	.000250	.000050	.000050	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001650	.000100	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	
10,000	50,000	.001750	.000050	.000100	.000050	
10,200	51,000	.001800	.000050	.....	.....	
10,400	52,000	.001850	.000050	.....	.....	
10,600	53,000	.001900	.000050	.....	.....	
10,800	54,000	.001950	.000050	.....	.....	
11,000	55,000	.002000	.000050	.....	.....	
11,200	56,000	.002050	.000050	.....	.....	
11,400	57,000	.002100	.000050	.....	.....	Elastic limit.
11,600	58,000	.006250	.004150	.....	.....	
11,800	59,000	.017000	.010750	.....	.....	
12,000	60,000	.017750	.000750	.....	.....	
12,400	62,000	.019400	.001650	.....	.....	
12,800	64,000	.022250	.002850	.....	.....	
13,200	66,000	.024600	.002350	.....	.....	
13,600	68,000	.027100	.002500	.....	.....	
14,000	70,000	.030500	.003400	.....	.....	
14,400	72,000	.033550	.003050	.....	.....	
14,800	74,000	.037400	.003850	.....	.....	
15,200	76,000	.041850	.004450	.....	.....	
15,600	78,000	.047250	.005400	.....	.....	
16,000	80,000	.053350	.006100	.....	.....	
16,400	82,000	.061000	.007650	.....	.....	
16,800	84,000	.0700	.0090	.....	.....	
17,200	86,000	.0850	.0150	.....	.....	
17,600	88,000	.1000	.0150	.....	.....	
17,920	89,600	.1600	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,600
Elastic limit per square inch of original section	do...	57,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.002100
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		″.90 from neck
Character of broken surface		silky
Elongation of inch sections		″.22*, ″.122

No. 628.

Marks, $\frac{32\ J_{28}}{M\ T,\ M}$
Length, 4″.505.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000233	.000133	0.	.....	
7,500	15,000	.000400	.000167	0.	.....	
10,000	20,000	.000533	.000133	0.	.....	
12,500	25,000	.000700	.000167	0.	.....	
15,000	30,000	.000833	.000133	0.	.....	
17,500	35,000	.000933	.000100	0.	.....	
20,000	40,000	.001167	.000234	0.	.....	
22,500	45,000	.001333	.000166	0.	.....	
23,000	46,000	.001333	0.	.....	.....	
23,500	47,000	.001367	.000034	.....	.....	
24,000	48,000	.001400	.000033	.....	.....	
24,500	49,000	.001433	.000033	.....	.....	
25,000	50,000	.001467	.000034	.000033	.000033	Elastic limit.
25,500	51,000	.001667	.000200	.....	.....	
26,000	52,000	.009333	.007666	.....	.....	
26,500	53,000	.009933	.000600	.....	.....	
27,000	54,000	.010333	.000400	.....	.....	
45,500	91,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001467
Ultimate strength per square inch of original section	pounds..	91,000
Manner of failure		triple flexure

No. 2194.

Marks, $\frac{32\ J_2}{B\ T,\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000200	.000100	0.		
3,000	15,000	.000350	.000150	0.		
4,000	20,000	.000500	.000150	0.		
5,000	25,000	.000600	.000100	0.		
6,000	30,000	.000850	.000250	0.		
7,000	35,000	.001000	.000150	0.		
8,000	40,000	.001150	.000150	0.		
9,000	45,000	.001300	.000150	0.		
10,000	50,000	.001450	.000150	0.		
10,200	51,000	.001500	.000050			
10,400	52,000	.001550	.000050			
10,600	53,000	.001600	.000050			Elastic limit.
10,800	54,000	.011000	.009400			
11,000	55,000	.011450	.000450			
11,200	56,000	.012050	.000600			
11,400	57,000	.012850	.000800			
11,600	58,000	.013650	.000800			
11,800	59,000	.014850	.001200			
12,000	60,000	.015850	.001000			
12,400	62,000	.018050	.002200			
12,800	64,000	.020350	.002300			
13,200	66,000	.023050	.002700			
13,600	68,000	.026500	.003450			
14,000	70,000	.029250	.002750			
14,400	72,000	.032750	.003500			
14,800	74,000	.037000	.004250			
15,200	76,000	.041750	.004750			
15,600	78,000	.047000	.005250			
16,000	80,000	.053000	.006000			
16,400	82,000	.0600	.0070			
16,800	84,000	.0650	.0050			
17,200	86,000	.0900	.0250			
17,600	88,000	.1100	.0200			
17,680	88,400	.1500	.0400			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,400
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.055
Reduction in area after rupture, per centum of original section		20.5
Position of rupture		".10 from neck
Character of broken surface		silky; flaky
Elongation of inch sections		".22*, ".14

No. 2195.

Marks, $\frac{32\ J_1}{B\ T_2 M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000450	.000100	0.	.....	
5,000	25,000	.000600	.000150	0.	.....	
6,000	30,000	.000800	.000200	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	Elastic limit.
10,200	51,000	.008600	.007050	.....	.....	
10,400	52,000	.009350	.000750	.....	.....	
10,600	53,000	.010100	.000750	.....	.....	
10,800	54,000	.011100	.001000	.....	.....	
11,000	55,000	.012000	.000900	.....	.....	
11,200	56,000	.013150	.001150	.....	.....	
11,400	57,000	.014850	.001200	.....	.....	
11,600	58,000	.015000	.000650	.....	.....	
11,800	59,000	.016500	.001500	.....	.....	
12,000	60,000	.017350	.000850	.....	.....	
12,400	62,000	.019500	.002150	.....	.....	
12,800	64,000	.021850	.002350	.....	.....	
13,200	66,000	.025600	.003750	.....	.....	
13,600	68,000	.029000	.003400	.....	.....	
14,000	70,000	.032000	.003000	.....	.....	
14,400	72,000	.036500	.004500	.....	.....	
14,800	74,000	.040100	.003600	.....	.....	
15,200	76,000	.046000	.005900	.....	.....	
15,600	78,000	.052000	.006000	.....	.....	
16,000	80,000	.0600	.0080	.....	.....	
16,400	82,000	.0700	.0100	.....	.....	
16,800	84,000	.0850	.0150	.....	.....	
17,200	86,000	.1150	.0300	.....	.....	
17,350	86,750	.1550	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,750
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do...	.001550
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.28, ″.21

No. 613.

Marks, $_{B}{}^{32}T_{3}{}^{J_3}M$
Length, 4″.498.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000200	.000200	0.	.....	
5,000	10,000	.000300	.000100	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000700	.000200	0.	.....	
12,500	25,000	.000800	.000100	0.	.....	
15,000	30,000	.001000	.000200	.000100	.000100	
17,500	35,000	.001250	.000250	.000200	.000100	
20,000	40,000	.001500	.000250	.000250	.000050	
20,500	41,000	.001500	0.	.....	.....	
21,000	42,000	.001550	.000050	.....	.....	
21,500	43,000	.001650	.000100	.....	.....	
22,000	44,000	.001700	.000050	.....	.....	
22,500	45,000	.001750	.000050	.000300	.000050	
23,000	46,000	.001750	0.	.....	.....	
23,500	47,000	.001850	.000100	.....	.....	
24,000	48,000	.001950	.000100	.....	.....	
24,500	49,000	.002050	.000100	.....	.....	Elastic limit.
25,000	50,000	.002250	.000200	.000600	.000300	
25,500	51,000	.008500	.006250	.006500	.005900	
26,000	52,000	.008750	.000250	.007750	.000250	
26,500	53,000	.008950	.000200	.007000	.000250	
27,000	54,000	.009250	.000300	.007250	.000250	
27,500	55,000	.009700	.000450	.007700	.000450	
42,800	85,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	49,000
Compression per inch under stress at elastic limit	inch..	0.002050
Ultimate strength per square inch of original section	pounds..	85,600
Manner of failure		triple flexure

[Additional specimens.]

No. 2418.

Marks, $\overset{32}{B}\ \overset{Ja}{T.}\ M$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000200	.000050	0.	.....	
3,000	15,000	.000500	.000300	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000900	.000100	0.	.....	
7,000	35,000	.001100	.000200	.....	.....	
8,000	40,000	.001350	.000250	.....	.....	
8,200	41,000	.001400	.000050	.....	.....	
8,400	42,000	.001450	.000050	.....	.....	
8,600	43,000	.001500	.000050	.....	.....	
8,800	44,000	.001550	.000050	.....	.....	
9,000	45,000	.001600	.000050	.....	.....	
9,200	46,000	.001650	.000050	.....	.....	Elastic limit.
9,400	47,000	.001850	.000200	.....	.....	
9,600	48,000	.002100	.000250	.....	.....	
9,800	49,000	.002300	.000200	.....	.....	
10,000	50,000	.002700	.000400	.....	.....	
10,200	51,000	.002900	.000200	.....	.....	
10,400	52,000	.003300	.000400	.....	.....	
10,600	53,000	.003900	.000600	.....	.....	
10,800	54,000	.004550	.000650	.....	.....	
11,000	55,000	.005150	.000600	.....	.....	
11,200	56,000	.005850	.000700	.....	.....	
11,400	57,000	.006600	.000750	.....	.....	
11,600	58,000	.007450	.000850	.....	.....	
11,800	59,000	.008250	.000800	.....	.....	
12,000	60,000	.009250	.001000	.....	.....	
12,400	62,000	.010750	.001500	.....	.....	
12,800	64,000	.012850	.002100	.....	.....	
13,200	66,000	.014750	.001900	.....	.....	
13,600	68,000	.016800	.002050	.....	.....	
14,000	70,000	.018800	.002000	.....	.....	
14,400	72,000	.021550	.002750	.....	.....	
14,800	74,000	.023750	.002200	.....	.....	
15,200	76,000	.026200	.002450	.....	.....	
15,600	78,000	.029100	.002900	.....	.....	
16,000	80,000	.032150	.003050	.....	.....	
16,400	82,000	.035850	.003700	.....	.....	
16,800	84,000	.040750	.004900	.....	.....	
17,200	86,000	.046000	.005250	.....	.....	
17,600	88,000	.0500	.0040	.....	.....	
18,000	90,000	.0550	.0050	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0850	.0200	.....	.....	
19,110	95,550	.1350	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,550
Elastic limit per square inch of original section	do....	46,000
Elongation per inch after rupture	inch..	0.2200
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture	1".55 from neck;	oblique
Character of broken surface		silky
Elongation of inch sections		".28", ".16

No. 2419.

Marks, $\frac{32\ J_2}{B\ T_5\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001110	.000200	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001500	.000250	0.	.....	
9,200	46,000	.001600	.000100	.....	.....	
9,400	47,000	.001650	.000050	.....	.....	Elastic limit.
9,600	48,000	.001900	.000250	.....	.....	
9,800	49,000	.002350	.000450	.....	.....	
10,000	50,000	.002750	.000400	.....	.....	
10,200	51,000	.003350	.000600	.....	.....	
10,400	52,000	.004100	.000750	.....	.....	
10,600	53,000	.004750	.000650	.....	.....	
10,800	54,000	.005500	.000750	.....	.....	
11,000	55,000	.006250	.000750	.....	.....	
11,200	56,000	.007250	.001000	.....	.....	
11,400	57,000	.008000	.000750	.....	.....	
11,600	58,000	.009000	.001000	.....	.....	
11,800	59,000	.009750	.000750	.....	.....	
12,000	60,000	.010600	.000850	.....	.....	
12,400	62,000	.012850	.002250	.....	.....	
12,800	64,000	.015000	.002150	.....	.....	
13,200	66,000	.017250	.002250	.....	.....	
13,600	68,000	.019550	.002300	.....	.....	
14,000	70,000	.022000	.002450	.....	.....	
14,400	72,000	.024550	.002550	.....	.....	
14,800	74,000	.027250	.002700	.....	.....	
15,200	76,000	.030250	.003000	.....	.....	
15,600	78,000	.033550	.003300	.....	.....	
16,000	80,000	.037500	.003950	.....	.....	
16,400	82,000	.041500	.004000	.....	.....	
16,800	84,000	.047100	.005600	.....	.....	
17,200	86,000	.0550	.0079	.....	.....	
17,600	88,000	.0600	.0050	.....	.....	
18,000	90,000	.0700	.0100	.....	.....	
18,400	92,000	.0850	.0150	.....	.....	
18,510	92,550	.1300	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section.....pounds.. 9
Elastic limit per square inch of original section.....do... 4
Elongation per inch after rupture.....inch.. 0.
Elongation per inch under strain at elastic limit.....do... .0
Reduction in diameter at point of rupture.....do...
Reduction in area after rupture, per centum of original section.....
Position of rupture.....1″.15 from neck; obl
Character of broken surface.....
Elongation of inch sections.....″.28*,

No. 652.

Marks, $\frac{32\ J_2}{B\ T_6\ M}$
Length, 4″.506.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000300	.000167	0.	.....	
7,500	15,000	.000467	.000167	0.	.....	
10,000	20,000	.000633	.000166	0.	.....	
12,500	25,000	.000833	.000200	0.	.....	
15,000	30,000	.001000	.000167	0.	.....	
17,500	35,000	.001167	.000167	.000033	.000033	
20,000	40,000	.001333	.000166	.000067	.000034	
20,500	41,000	.001367	.000034	.....	.....	
21,000	42,000	.001400	.000033	.....	.....	
21,500	43,000	.001467	.000067	.....	.....	
22,000	44,000	.001567	.000100	.....	.....	
22,500	45,000	.001600	.000033	.....	.....	
23,000	46,000	.001667	.000067	.....	.....	
23,500	47,000	.001767	.000100	.....	.....	
24,000	48,000	.001867	.000100	.....	.....	Elastic limit.
24,500	49,000	.002033	.000166	.....	.....	
25,000	50,000	.002233	.000200	.....	.....	
25,500	51,000	.003533	.001300	.....	.....	
26,000	52,000	.002767	.001234	.....	.....	
26,500	53,000	.002967	.000200	.....	.....	
27,000	54,000	.003267	.000300	.....	.....	
27,500	55,000	.003733	.000466	.....	.....	
28,000	56,000	.004067	.000334	.....	.....	
48,800	97,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	48,000
Compression per inch under stress at elastic limit	inch..	.001867
Ultimate strength per square inch of original section	pounds..	97,600
Manner of failure		triple flexure

NEW JACKET No. 21.

No. 2698.

Marks, $\frac{32\ J_2}{M\ T_7\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001450	.000200	.....	.....	
10,000	50,000	.001700	.000250	.....	.....	
10,200	51,000	.001700	0.	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001900	.000100	.....	.....	
11,000	55,000	.001950	.000050	.....	.....	
11,200	56,000	.002000	.000050	.....	.....	
11,400	57,000	.002050	.000050	.....	.....	Elastic limit.
11,600	58,000	.004600	.002550	.....	.....	
11,800	59,000	.005500	.000900	.....	.....	
12,000	60,000	.006250	.000750	.....	.....	
12,400	62,000	.007600	.001350	.....	.....	
12,800	64,000	.009250	.001650	.....	.....	
13,200	66,000	.010000	.000750	.....	.....	
13,600	68,000	.011500	.001500	.....	.....	
14,000	70,000	.013000	.001500	.....	.....	
14,400	72,000	.014750	.001750	.....	.....	
14,800	74,000	.016250	.001500	.....	.....	
15,200	76,000	.018100	.001850	.....	.....	
15,600	78,000	.019500	.001400	.....	.....	
16,000	80,000	.021500	.002000	.....	.....	
16,400	82,000	.023150	.001650	.....	.....	
16,800	84,000	.025500	.002350	.....	.....	
17,200	86,000	.027500	.002000	.....	.....	
17,600	88,000	.030000	.002500	.....	.....	
18,000	90,000	.032500	.002500	.....	.....	
18,400	92,000	.035000	.002500	.....	.....	
18,800	94,000	.038750	.003750	.....	.....	
19,200	96,000	.042000	.003250	.....	.....	
19,600	98,000	.046500	.004500	.....	.....	
20,000	100,000	.0500	.0035	.....	.....	
20,400	102,000	.0550	.0050	.....	.....	
20,800	104,000	.0600	.0050	.....	.....	
21,200	106,000	.0700	.0100	.....	.....	
21,580	107,900	.1100	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section .....pounds.. 107,
Elastic limit per square inch of original section .....do . 57,
Elongation per inch after rupture .....inch.. 0.1
Elongation per inch under strain at elastic limit.....do... .002
Reduction in diameter at point of rupture.....do... .
Reduction in area after rupture, per centum of original section 2
Position of rupture .....″.45 from ne
Character of broken surface.....granular; dull spot at circumferen
Elongation of inch sections.....″.18*, ″

No. 2699.

Marks, $\frac{32\ J_1}{M\ T_2\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001400	.000200	.....	.....	
10,000	50,000	.001550	.000150	.....	.....	
10,200	51,000	.001550	0.	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001650	0.	.....	.....	
11,000	55,000	.001700	.000050	.....	.....	
11,200	56,000	.001750	.000050	.....	.....	
11,400	57,000	.001800	.000050	.....	.....	Elastic limit.
11,600	58,000	.003850	.002050	.....	.....	
11,800	59,000	.006000	.002150	.....	.....	
12,000	60,000	.006500	.000500	.....	.....	
12,400	62,000	.008000	.001500	.....	.....	
12,800	64,000	.009500	.001500	.....	.....	
13,200	66,000	.010950	.001450	.....	.....	
13,600	68,000	.012000	.001050	.....	.....	
14,000	70,000	.014000	.002000	.....	.....	
14,400	72,000	.015200	.001200	.....	.....	
14,800	74,000	.016750	.001550	.....	.....	
15,200	76,000	.018500	.001750	.....	.....	
15,600	78,000	.020000	.001500	.....	.....	
16,000	80,000	.021500	.001500	.....	.....	
16,400	82,000	.023250	.001750	.....	.....	
16,800	84,000	.025750	.002500	.....	.....	
17,200	86,000	.028000	.002250	.....	.....	
17,600	88,000	.030500	.002500	.....	.....	
18,000	90,000	.033750	.003250	.....	.....	
18,400	92,000	.036500	.002750	.....	.....	
18,800	94,000	.040100	.003600	.....	.....	
19,200	96,000	.043500	.003400	.....	.....	
19,600	98,000	.048500	.005000	.....	.....	
20,000	100,000	.0550	.0065	.....	.....	
20,400	102,000	.0600	.0050	.....	.....	
20,800	104,000	.0700	.0100	.....	.....	
21,200	106,000	.0800	.0100	.....	.....	
21,480	107,400	.1150	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	107,400
Elastic limit per square inch of original section	do...	57,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do..	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		".23 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".17, ".28"

No. 669.

Marks, $\frac{32\ J_2}{M\ T_2 M}$
Length, 4″.506.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000167	.000167	0.	.....	
5,000	10,000	.000333	.000166	0.	.....	
7,500	15,000	.000500	.000167	0.	.....	
10,000	20,000	.000667	.000167	0.	.....	
12,500	25,000	.000833	.000166	0.	.....	
15,000	30,000	.001000	.000167	0.	.....	
17,500	35,000	.001167	.000167	0.	.....	
20,000	40,000	.001333	.000166	0.	.....	
20,500	41,000	.001367	.000034	.....	.....	
21,000	42,000	.001400	.000033	.....	.....	
21,500	43,000	.001433	.000033	.....	.....	
22,000	44,000	.001467	.000034	.....	.....	
22,500	45,000	.001500	.000033	.....	.....	
23,000	46,000	.001533	.000033	.....	.....	
23,500	47,000	.001567	.000034	.....	.....	
24,000	48,000	.001600	.000033	.....	.....	
24,500	49,000	.001633	.000033	.....	.....	
25,000	50,000	.001667	.000034	.....	.....	
25,500	51,000	.001700	.000033	.....	.....	
26,000	52,000	.001733	.000033	.....	.....	
26,500	53,000	.001800	.000067	.....	.....	
27,000	54,000	.001833	.000033	.....	.....	
27,500	55,000	.001867	.000034	.....	.....	
28,000	56,000	.001900	.000033	.....	.....	Elastic limit.
28,500	57,000	.002933	.001033	.....	.....	
29,000	58,000	.003800	.000867	.....	.....	
29,500	59,000	.004333	.000533	.....	.....	
30,000	60,000	.005100	.000767	.....	.....	
50,960	101,920	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	56,000
Compression per inch under stress at elastic limit	inch..	0.001900
Ultimate strength per square inch of original section	pounds..	101,920
Manner of failure		triple flexure

[Additional specimens from new jacket.]

No. 2616.

Marks, $\frac{32\ R_3\ J}{M\ J_{10}\ M}$
Diameter, ″.506.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000600	.000100	0.	.....	
6,000	30,000	.000750	.000150	0.	.....	
7,000	35,000	.000950	.000200	0.	.....	
8,000	40,000	.001150	.000200	0.	.....	
8,200	41,000	.001200	.000050	.....	.....	
8,400	42,000	.001250	.000050	.....	.....	
8,600	43,000	.001300	.000050	.....	.....	
8,800	44,000	.001350	.000050	.....	.....	
9,000	45,000	.001400	.000050	.....	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001500	0.	.....	.....	
9,800	49,000	.001550	.000050	.....	.....	
10,000	50,000	.001650	.000100	.....	.....	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001750	0.	.....	.....	
11,000	55,000	.001800	.000050	.....	.....	Elastic limit.
11,200	56,000	.005750	.003950	.....	.....	
11,400	57,000	.006600	.000850	.....	.....	
11,600	58,000	.007050	.000450	.....	.....	
11,800	59,000	.007800	.000750	.....	.....	
12,000	60,000	.008400	.000600	.....	.....	
12,400	62,000	.009700	.001300	.....	.....	
12,800	64,000	.011150	.001450	.....	.....	
13,200	66,000	.012650	.001500	.....	.....	
13,600	68,000	.014550	.001900	.....	.....	
14,000	70,000	.016000	.001450	.....	.....	
14,400	72,000	.017900	.001900	.....	.....	
14,800	74,000	.019500	.001600	.....	.....	
15,200	76,000	.021500	.002000	.....	.....	
15,600	78,000	.023500	.002000	.....	.....	
16,000	80,000	.026000	.002500	.....	.....	
16,400	82,000	.029000	.003000	.....	.....	
16,800	84,000	.031550	.002550	.....	.....	
17,200	86,000	.034750	.003200	.....	.....	
17,600	88,000	.037850	.003100	.....	.....	
18,000	90,000	.041750	.003900	.....	.....	
18,400	92,000	.045750	.004000	.....	.....	
18,800	94,000	.0500	.004250	.....	.....	
19,200	96,000	.0550	.0050	.....	.....	
19,600	98,000	.0650	.0100	.....	.....	
20,000	100,000	.0800	.0150	.....	.....	
20,400	102,000	.1000	.0200	.....	.....	
20,490	102,450	.1350	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	102,450
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.136
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.34, ″.13

No. 2617.

Marks, $\frac{22\ Ru\ J}{M\ T_{11}\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000350	.000100	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001350	.000200	.....	.....	
10,000	50,000	.001550	.000200	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001600	0.	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001700	.000050	.....	.....	Elastic limit.
11,000	55,000	.001850	.000150	.....	.....	
11,200	56,000	.006000	.004150	.....	.....	
11,400	57,000	.006700	.000700	.....	.....	
11,600	58,000	.007100	.000400	.....	.....	
11,800	59,000	.007750	.000650	.....	.....	
12,000	60,000	.008650	.000900	.....	.....	
12,400	62,000	.010000	.001350	.....	.....	
12,800	64,000	.011400	.001400	.....	.....	
13,200	66,000	.013000	.001600	.....	.....	
13,600	68,000	.014800	.001800	.....	.....	
14,000	70,000	.016400	.001600	.....	.....	
14,400	72,000	.018000	.001600	.....	.....	
14,800	74,000	.019850	.001850	.....	.....	
15,200	76,000	.021800	.001950	.....	.....	
15,600	78,000	.024000	.002200	.....	.....	
16,000	80,000	.026350	.002350	.....	.....	
16,400	82,000	.029100	.002750	.....	.....	
16,800	84,000	.032000	.002900	.....	.....	
17,200	86,000	.035050	.003050	.....	.....	
17,600	88,000	.038300	.003250	.....	.....	
18,000	90,000	.043000	.004700	.....	.....	
18,400	92,000	.047500	.004500	.....	.....	
18,800	94,000	.052000	.004500	.....	.....	
19,200	96,000	.0550	.0030	.....	.....	
19,600	98,000	.0650	.0100	.....	.....	
20,000	100,000	.0800	.0150	.....	.....	
20,400	102,000	.1050	.0250	.....	.....	
20,420	102,100	.1550	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	102,100
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		1 inch from neck
Character of broken surface		granular; silky spot at circumference; opened cracks in surface of stem
Elongation of inch sections		".19, ".28*

No. 678.

Marks, $\frac{32\ Re_1\ J}{M\ T_{12}\ M}$
Length, 4″.504.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000167	.000167	0.	.....	
5,000	10,000	.000333	.000166	0.	.....	
7,500	15,000	.000500	.000167	0.	.....	
10,000	20,000	.000667	.000167	0.	.....	
12,500	25,000	.000832	.000166	0.	.....	
15,000	30,000	.001000	.000167	0.	.....	
17,500	35,000	.001200	.000200	.000067	.000067	
20,000	40,000	.001367	.000167	.....	.....	
20,500	41,000	.001400	.000033	.....	.....	
21,000	42,000	.001467	.000067	.....	.....	
21,500	43,000	.001500	.000033	.....	.....	
22,000	44,000	.001533	.000033	.....	.....	
22,500	45,000	.001567	.000034	.....	.....	
23,000	46,000	.001633	.000066	.....	.....	
23,500	47,000	.001667	.000034	.....	.....	
24,000	48,000	.001700	.000033	.....	.....	
24,500	49,000	.001767	.000067	.....	.....	
25,000	50,000	.001833	.000066	.....	.....	
25,500	51,000	.001867	.000034	.....	.....	
26,000	52,000	.001900	.000033	.....	.....	
26,500	53,000	.002000	.000100	.....	.....	
27,000	54,000	.002067	.000067	.....	.....	Elastic limit.
27,500	55,000	.002300	.000233	.....	.....	
28,000	56,000	.006833	.004533	.....	.....	
28,500	57,000	.008267	.001434	.....	.....	
29,000	58,000	.009500	.001233	.....	.....	
48,580	97,160	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.002067
Ultimate strength per square inch of original section	pounds..	97,160
Manner of failure		triple flexure

No. 2254.

Marks, $\frac{22\,Jn}{M\ T,\ M}$
Diameter, ".505.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	— .000050	— .000050	
2,000	10,000	.000250	.000150	— .000050	0.	
3,000	15,000	.000400	.000150	— .000100	— .000050	
4,000	20,000	.000550	.000150	— .000100	0.	
5,000	25,000	.000700	.000150	— .000100	0.	
6,000	30,000	.000850	.000150	— .000100	0.	
7,000	35,000	.001050	.000200	— .000100	0.	
8,000	40,000	.001250	.000200	— .000100	0.	
9,000	45,000	.001400	.000150	— .000100	0.	
10,000	50,000	.001600	.000200	— .000100	0.	
10,200	51,000	.001600	0.	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001650	0.	.....	.....	
10,800	54,000	.001700	.000050	.....	.....	
11,000	55,000	.001750	.000050	.....	.....	
11,200	56,000	.001800	.000050	.....	.....	
11,400	57,000	.001800	0.	.....	.....	
11,600	58,000	.001850	.000050	.....	.....	
11,800	59,000	.001850	0.	.....	.....	
12,000	60,000	.001900	.000050	.....	.....	
12,200	61,000	.001950	.000050	.....	.....	
12,400	62,000	.002000	.000050	.....	.....	Elastic limit.
12,600	63,000	.002750	.000750	.....	.....	
12,800	64,000	.003350	.000600	.....	.....	
13,000	65,000	.004750	.001400	.....	.....	
13,200	66,000	.007000	.002250	.....	.....	
13,400	67,000	.007750	.000750	.....	.....	
13,600	68,000	.008400	.000650	.....	.....	
13,800	69,000	.009000	.000600	.....	.....	
14,000	70,000	.009750	.000750	.....	.....	
14,400	72,000	.011250	.001500	.....	.....	
14,800	74,000	.012750	.001500	.....	.....	
15,200	76,000	.014750	.002000	.....	.....	
15,600	78,000	.016100	.001350	.....	.....	
16,000	80,000	.018150	.002050	.....	.....	
16,400	82,000	.020250	.002100	.....	.....	
16,800	84,000	.022500	.002250	.....	.....	
17,200	86,000	.024500	.002000	.....	.....	
17,600	88,000	.026400	.001900	.....	.....	
18,000	90,000	.029000	.002600	.....	.....	
18,400	92,000	.032450	.003450	.....	.....	
18,800	94,000	.034500	.002050	.....	.....	
19,200	96,000	.037500	.003000	.....	.....	
19,600	98,000	.041250	.003750	.....	.....	
20,000	100,000	.046500	.005250	.....	.....	
20,400	102,000	.0500	.0035	.....	.....	
20,800	104,000	.0600	.0100	.....	.....	
21,200	106,000	.0700	.0100	.....	.....	
21,600	108,000	.0950	.0250	.....	.....	
21,810	109,050	.1200	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section ..... pounds..
Elastic limit per square inch of original section ..... do...
Elongation per inch after rupture ..... inch..
Elongation per inch under strain at elastic limit ..... do...
Reduction in diameter at point of rupture ..... do...
Reduction in area after rupture, per centum of original section .....
Position of rupture ..... ".6 fr
Character of broken surface ..... granular, radiating from dull metal at circun
Elongation of inch sections ..... ".

No. 2255.

Marks, $\frac{32\ J_B}{M\ T_2 M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	—.000050	—.000050	
3,000	15,000	.000350	.000100	—.000100	—.000050	
4,000	20,000	.000500	.000150	—.000100	0.	
5,000	25,000	.000650	.000150	—.000150	—.000050	
6,000	30,000	.000750	.000100	—.000200	—.000050	
7,000	35,000	.000850	.000100	—.000200	0.	
8,000	40,000	.001000	.000150	—.000200	0.	
9,000	45,000	.001200	.000200	—.000200	0.	
10,000	50,000	.001350	.000150	—.000200	0.	
11,000	55,000	.001500	.000150	.....	.....	
11,200	56,000	.001550	.000050	.....	.....	
11,400	57,000	.001600	.000050	.....	.....	
11,600	58,000	.001700	.000100	.....	.....	
11,800	59,000	.001750	.000050	.....	.....	Elastic limit.
12,000	60,000	.007000	.005250	.....	.....	
12,200	61,000	.007750	.000750	.....	.....	
12,400	62,000	.008250	.000500	.....	.....	
12,600	63,000	.009000	.000750	.....	.....	
12,800	64,000	.010000	.001000	.....	.....	
13,200	66,000	.011000	.001000	.....	.....	
13,600	68,000	.013000	.002000	.....	.....	
14,000	70,000	.014600	.001600	.....	.....	
14,400	72,000	.016500	.001900	.....	.....	
14,800	74,000	.018000	.001500	.....	.....	
15,200	76,000	.020000	.002000	.....	.....	
15,600	78,000	.022250	.002250	.....	.....	
16,000	80,000	.024150	.001900	.....	.....	
16,400	82,000	.026750	.002600	.....	.....	
16,800	84,000	.029750	.003000	.....	.....	
17,200	86,000	.032000	.002250	.....	.....	
17,600	88,000	.035500	.003500	.....	.....	
18,000	90,000	.039250	.003750	.....	.....	
18,400	92,000	.044250	.005000	.....	.....	
18,800	94,000	.050000	.005750	.....	.....	
19,200	96,000	.0600	.0100	.....	.....	
19,600	98,000	.0700	.0100	.....	.....	
20,000	100,000	.1800	.0100	.....	.....	
20,400	102,000	.1000	.0200	.....	.....	
20,490	102,450	.1300	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	102,450
Elastic limit per square inch of original section	do...	59,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".60 from neck
Character of broken surface		silky; traces of granulation
Elongation of inch sections		".30*, ".10

No. 629.

Marks, $\frac{32\ Jn}{M\ T, M}$
Length, 4″.502.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000267	.000134	0.	.....	
7,500	15,000	.000400	.000133	0.	.....	
10,000	20,000	.000567	.000167	0.	.....	
12,500	25,000	.000700	.000133	0.	.....	
15,000	30,000	.000867	.000167	— .000033	— .000033	
17,500	35,000	.001000	.000133	— .000067	— .000034	
20,000	40,000	.001167	.000167	— .000067	0.	
22,500	45,000	.001300	.000133	— .000067	0.	
23,000	46,000	.001333	.000033	.....	.....	
23,500	47,000	.001333	0.	.....	.....	
24,000	48,000	.001367	.000034	.....	.....	
24,500	49,000	.001400	.000033	.....	.....	
25,000	50,000	.001400	0.	— .000100	— .000033	
25,500	51,000	.001400	0.	.....	.....	
26,000	52,000	.001433	.000033	.....	.....	
26,500	53,000	.001467	.000034	.....	.....	
27,000	54,000	.001433	— .000034	.....	.....	
27,500	55,000	.001400	— .000033	— .000167	— .000067	Elastic limit.
28,000	56,000	.002400	.001000	.....	.....	
28,500	57,000	.004200	.001800	.....	.....	
29,000	58,000	.004900	.000700	.....	.....	
48,180	96,360	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	55,000
Compression per inch under stress at elastic limit	inch..	0.001400
Ultimate strength per square inch of original section	pounds..	96,360
Manner of failure		triple flexure

No. 2276.

Marks, $\frac{32\ J_{32}}{B\ T_1\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001400	.000200	0.	.....	
10,000	50,000	.001650	.000250	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001700	0.	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	
11,000	55,000	.001800	0.	.....	.....	
11,200	56,000	.001850	.000050	.....	.....	Elastic limit.
11,400	57,000	.006750	.004900	.....	.....	
11,600	58,000	.007700	.000950	.....	.....	
11,800	59,000	.008700	.001000	.....	.....	
12,000	60,000	.009750	.001050	.....	.....	
12,400	62,000	.011150	.001400	.....	.....	
12,800	64,000	.012700	.001550	.....	.....	
13,200	66,000	.014750	.002050	.....	.....	
13,600	68,000	.017000	.002250	.....	.....	
14,000	70,000	.019350	.002350	.....	.....	
14,400	72,000	.021500	.002150	.....	.....	
14,800	74,000	.024000	.002500	.....	.....	
15,200	76,000	.026500	.002500	.....	.....	
15,600	78,000	.029700	.003200	.....	.....	
16,000	80,000	.033000	.003300	.....	.....	
16,400	82,000	.036500	.003500	.....	.....	
16,800	84,000	.040450	.003950	.....	.....	
17,200	86,000	.045850	.005400	.....	.....	
17,600	88,000	.051250	.005400	.....	.....	
18,000	90,000	.0600	.008750	.....	.....	
18,400	92,000	.0750	.0150	.....	.....	
18,800	94,000	.0950	.0200	.....	.....	
19,000	95,000	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,000
Elastic limit per square inch of original section	do...	56,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		⅝ inch from neck
Character of broken surface		granular; dull spot at circumference
Diameter ″.1 from point of rupture		″.39
Elongation of inch sections		″.30°, ″.12

No. 2277.

Marks, $\frac{32\ J_{T_2}}{B\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001200	.000100	0.	.....	
9,000	45,000	.001400	.000200	0.	.....	
10,000	50,000	.001600	.000200	0.	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001700	0.	.....	.....	
10,800	54,000	.001750	.000050	.....	.....	
11,000	55,000	.001800	.000050	.....	.....	
11,200	56,000	.001800	0.	.....	.....	
11,400	57,000	.001850	.000050	.....	.....	
11,600	58,000	.001950	.000100	.....	.....	Elastic limit.
11,800	59,000	.006500	.004550	.....	.....	
12,000	60,000	.007350	.000850	.....	.....	
12,400	62,000	.009350	.002000	.....	.....	
12,800	64,000	.010600	.001250	.....	.....	
13,200	66,000	.012000	.001400	.....	.....	
13,600	68,000	.013750	.001750	.....	.....	
14,000	70,000	.016000	.002250	.....	.....	
14,400	72,000	.017500	.001500	.....	.....	
14,800	74,000	.020000	.002500	.....	.....	
15,200	76,000	.022150	.002150	.....	.....	
15,600	78,000	.024250	.002100	.....	.....	
16,000	80,000	.027250	.003000	.....	.....	
16,400	82,000	.030000	.002750	.....	.....	
16,800	84,000	.032600	.002600	.....	.....	
17,200	86,000	.036000	.003400	.....	.....	
17,600	88,000	.040000	.004000	.....	.....	
18,000	90,000	.044750	.004750	.....	.....	
18,400	92,000	.050000	.005240	.....	.....	
18,800	94,000	.0550	.0050	.....	.....	
19,200	96,000	.0650	.0100	.....	.....	
19,600	98,000	.0850	.0200	.....	.....	
19,970	99,850	.1250	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,850
Elastic limit per square inch of original section	do...	58,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do...	.001950
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		″.05 from middle of stem
Character of broken surface		silky, with traces of granulation
Elongation of inch sections		″.32*, ″.16

No. 634.

Marks, $\frac{32\ J_{22}}{B\ T_2\ M}$
Length, 4".504.
Diameter, ".798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000267	.000134	0.	.....	
7,500	15,000	.000433	.000166	.000033	.000033	
10,000	20,000	.000600	.000167	.000033	0.	
12,500	25,000	.000767	.000167	.000033	0.	
15,000	30,000	.000967	.000200	.000033	0.	
17,500	35,000	.001133	.000166	.000033	0.	
20,000	40,000	.001300	.000167	.000033	0.	
22,500	45,000	.001467	.000167	.000033	0.	
23,000	46,000	.001500	.000033	.....	.....	
23,500	47,000	.001533	.000033	.....	.....	
24,000	48,000	.001567	.000034	.....	.....	
24,500	49,000	.001600	.000033	.....	.....	
25,000	50,000	.001667	.000067	.000033	0.	
25,500	51,000	.001667	0.	.....	.....	
26,000	52,000	.001700	.000033	.....	.....	
26,500	53,000	.001733	.000033	.....	.....	
27,000	54,000	.001767	.000034	.....	.....	
27,500	55,000	.001800	.000033	.000033	0.	Elastic limit.
28,000	56,000	.001900	.000100	.....	.....	
28,500	57,000	.001967	.000067	.....	.....	
29,000	58,000	.002100	.000133	.....	.....	
29,500	59,000	.006300	.004200	.....	.....	
30,000	60,000	.008333	.002033	.....	.....	
47,520	95,040	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	55,000
Compression per inch under stress at elastic limit	"	0.001800
Ultimate strength per square inch of original section	pounds..	95,040
Manner of failure		triple flexure

No. 2256.

Marks, $\frac{33\ Jas}{M\ T,\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.		
2,000	10,000	.000300	.000100	0.		
3,000	15,000	.000450	.000150	0.		
4,000	20,000	.000550	.000100	0.		
5,000	25,000	.000750	.000200	0.		
6,000	30,000	.000950	.000200	0.		
7,000	35,000	.001100	.000150	0.		
8,000	40,000	.001300	.000200	0.		
9,000	45,000	.001450	.000150	0.		
10,000	50,000	.001600	.000150	0.		
10,200	51,000	.001650	.000050			
10,400	52,000	.001700	.000050			
10,600	53,000	.001750	.000050			
10,800	54,000	.001850	.000100			
11,000	55,000	.001850	0.			
11,200	56,000	.001900	.000050			
11,400	57,000	.001950	.000050			
11,600	58,000	.001950	0.			
11,800	59,000	.002000	.000050			Elastic limit.
12,000	60,000	.002750	.000750			
		.007000	.004250			
12,400	62,000	.008000	.001000			
12,800	64,000	.009750	.001750			
13,200	66,000	.011000	.001250			
13,600	68,000	.012500	.001500			
14,000	70,000	.014000	.001500			
14,400	72,000	.015750	.001750			
14,800	74,000	.017500	.001750			
15,200	76,000	.019250	.001750			
15,600	78,000	.021500	.002250			
16,000	80,000	.024000	.002500			
16,400	82,000	.026000	.002000			
16,800	84,000	.029000	.003000			
17,200	86,000	.031500	.002500			
17,600	88,000	.034250	.002750			
18,000	90,000	.037500	.003250			
18,400	92,000	.041250	.003750			
18,800	94,000	.045500	.004250			
19,200	96,000	.050500	.005000			
19,600	98,000	.0600	.0095			
20,000	100,000	.0750	.0150			
20,400	102,000	.0900	.0150			
20,710	103,550	.1750	.0850			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	103,550
Elastic limit per square inch of original section	do...	59,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do...	.002000
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		1" from neck
Character of broken surface		silky; interspersed with fine granulation
Elongation of inch sections		".29", ".14

No. 2257.

Marks, $^{32\ J_M}_{M\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000400	.000200	0.	.....	
3,000	15,000	.000500	.000100	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000900	.000200	0.	.....	
6,000	30,000	.001000	.000100	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001400	.000200	0.	.....	
9,000	45,000	.001550	.000150	0.	.....	
10,000	50,000	.001700	.000150	0.	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	
10,600	53,000	.001850	.000050	.....	.....	
10,800	54,000	.001900	.000050	.....	.....	
11,000	55,000	.001950	.000050	.....	.....	
11,200	56,000	.002000	.000050	.....	.....	
11,400	57,000	.002100	.000100	.....	.....	Elastic limit.
11,600	58,000	.006900	.000800	.....	.....	
11,800	59,000	.007500	.000600	.....	.....	
12,000	60,000	.008000	.000500	.....	.....	
12,400	62,000	.009600	.001600	.....	.....	
12,800	64,000	.011500	.001900	.....	.....	
13,200	66,000	.012750	.001250	.....	.....	
13,600	68,000	.014250	.001500	.....	.....	
14,000	70,000	.016000	.001750	.....	.....	
14,400	72,000	.017750	.001750	.....	.....	
14,800	74,000	.020000	.002250	.....	.....	
15,200	76,000	.022000	.002000	.....	.....	
15,600	78,000	.024250	.002250	.....	.....	
16,000	80,000	.027000	.002750	.....	.....	
16,400	82,000	.029250	.002250	.....	.....	
16,800	84,000	.031900	.002650	.....	.....	
17,200	86,000	.035000	.003100	.....	.....	
17,600	88,000	.038500	.003500	.....	.....	
18,000	90,000	.042500	.004000	.....	.....	
18,400	92,000	.049500	.007000	.....	.....	
18,800	94,000	.054000	.004500	.....	.....	
19,200	96,000	.0700	.0160	.....	.....	
19,600	98,000	.0800	.0100	.....	.....	
20,000	100,000	.0900	.0100	.....	.....	
20,320	101,600	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	101,600
Elastic limit per square inch of original section	do...	57,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.002100
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		1″.07 from neck
Character of broken surface		silky
Elongation of inch sections		″.22*, ″.18

No. 630.

Marks, $\frac{32\ J_{34}}{M\ T_3\ M}$
Length, 4 ″.502.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000267	.000167	0.	.....	
7,500	15,000	.000400	.000133	0.	.....	
10,000	20,000	.000600	.000200	0.	.....	
12,500	25,000	.000767	.000167	.000033	.000033	
15,000	30,000	.000900	.000133	.000033	0.	
17,500	35,000	.001100	.000200	.000033	0.	
20,000	40,000	.001267	.000167	.000033	0.	
22,500	45,000	.001433	.000166	.000033	0.	
23,000	46,000	.001500	.000067	.....	.....	
23,500	47,000	.001500	0.	.....	.....	
24,000	48,000	.001533	.000033	.....	.....	
24,500	49,000	.001567	.000034	.....	.....	
25,000	50,000	.001600	.000033	.000033	0.	
25,500	51,000	.001633	.000033	.....	.....	
26,000	52,000	.001667	.000034	.....	.....	
26,500	53,000	.001700	.000033	.....	.....	
27,000	54,000	.001733	.000033	.....	.....	
27,500	55,000	.001767	.000034	.000067	.000034	
28,000	56,000	.001800	.000033	.....	.....	
28,500	57,000	.001833	.000033	.....	.....	Elastic limit.
29,000	58,000	.003267	.001434	.....	.....	
29,500	59,000	.008100	.004833	.....	.....	
30,000	60,000	.009233	.001133	.....	.....	
49,080	98,160	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	57,000
Compression per inch under stress at elastic limit	inch..	0.001833
Ultimate strength per square inch of original section	pounds..	98,160
Manner of failure		triple flexure

No. 2278.

Marks, $\overset{32\ J_{ss}}{B\ T_1\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000600	.000250	0.	.....	
4,000	20,000	.000850	.000250	0.	.....	
5,000	25,000	.001000	.000150	0.	.....	
6,000	30,000	.001200	.000200	0.	.....	
7,000	35,000	.001300	.000100	0.	.....	
8,000	40,000	.001500	.000200	.000050	.000050	
9,000	45,000	.001650	.000150	.....	.....	
10,000	50,000	.001950	.000300	.....	.....	
10,200	51,000	.002000	.000050	.....	.....	
10,400	52,000	.002050	.0.0050	.....	.....	
10,600	53,000	.002050	0.	.....	.....	
10,800	54,000	.002100	.000050	.....	.....	Elastic limit.
11,000	55,000	.003500	.001400	.....	.....	
11,200	56,000	.005000	.001500	.....	.....	
11,400	57,000	.001300	.001300	.....	.....	
11,600	58,000	.008250	.001950	.....	.....	
11,800	59,000	.009250	.001000	.....	.....	
12,000	60,000	.010150	.000900	.....	.....	
12,400	62,000	.011150	.001000	.....	.....	
12,800	64,000	.012850	.001700	.....	.....	
13,200	66,000	.015000	.002150	.....	.....	
13,600	68,000	.016250	.001250	.....	.....	
14,000	70,000	.018500	.002250	.....	.....	
14,400	72,000	.021500	.003000	.....	.....	
14,800	74,000	.023300	.001800	.....	.....	
15,200	76,000	.025500	.002200	.....	.....	
15,600	78,000	.029000	.003500	.....	.....	
16,000	80,000	.031000	.002000	.....	.....	
16,400	82,000	.035000	.004000	.....	.....	
16,800	84,000	.038500	.003500	.....	.....	
17,200	86,000	.043200	.004700	.....	.....	
17,600	88,000	.051000	.007800	.....	.....	
18,000	90,000	.0550	.0040	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0850	.0200	.....	.....	
19,200	96,000	.1050	.0200	.....	.....	
19,320	96,600	.1500	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,600
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.002100
Reduction in diameter at point of rupture	do...	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		″.65 from neck
Character of broken surface		silky
Elongation of inch sections		″.36, ″.14

No. 2279.

Marks, $\frac{32\ J_{25}}{B\ T_2\ M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000850	.000250	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001550	.000200	0.	.....	
10,000	50,000	.001700	.000150	0.	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	
10,600	53,000	.001850	.000050	.....	.....	Elastic limit.
10,800	54,000	.002050	.000200	.....	.....	
11,000	55,000	.007600	.005550	.....	.....	
11,200	56,000	.008250	.000650	.....	.....	
11,400	57,000	.008750	.000500	.....	.....	
11,600	58,000	.009700	.000950	.....	.....	
11,800	59,000	.010700	.001000	.....	.....	
12,000	60,000	.012000	.001300	.....	.....	
12,400	62,000	.013550	.001550	.....	.....	
12,800	64,000	.015500	.001950	.....	.....	
13,200	66,000	.017450	.001950	.....	.....	
13,600	68,000	.019150	.001700	.....	.....	
14,000	70,000	.021250	.002100	.....	.....	
14,400	72,000	.023500	.002250	.....	.....	
14,800	74,000	.026550	.003050	.....	.....	
15,200	76,000	.029250	.002700	.....	.....	
15,600	78,000	.032000	.002750	.....	.....	
16,000	80,000	.035600	.003600	.....	.....	
16,400	82,000	.040000	.004400	.....	.....	
16,800	84,000	.045000	.005000	.....	.....	
17,200	86,000	.050500	.005500	.....	.....	
17,600	88,000	.0600	.0095	.....	.....	
18,000	90,000	.0700	.0100	.....	.....	
18,400	92,000	.0900	.0200	.....	.....	
18,800	94,000	.1500	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,000
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		″.85 from neck
Character of broken surface		silky
Elongation of inch sections		″.36*, ″.16

No. 635.

Marks, $\frac{32 J_{25}}{B T_3 M}$
Length, 4″.506.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000233	.000100	0.	.....	
7,500	15,000	.000400	.000167	0.	.....	
10,000	20,000	.000600	.000200	.000033	.000033	
12,500	25,000	.000767	.000167	.000033	0.	
15,000	30,000	.000933	.000166	.000033	0.	
17,500	35,000	.001133	.000200	.000033	0.	
20,000	40,000	.001333	.000200	.000033	0.	
22,500	45,000	.001500	.000167	.000033	0.	
25,000	50,000	.001667	.000167	.000033	0.	
25,500	51,000	.001700	.000033	.....	.....	
26,000	52,000	.001767	.000067	.....	.....	
26,500	53,000	.001800	.000033	.....	.....	
27,000	54,000	.001867	.000067	.....	.....	
27,500	55,000	.001967	.000100	.000067	.000034	
28,000	56,000	.002000	.000033	.....	.....	Elastic limit.
28,500	57,000	.002167	.000167	.....	.....	
29,000	58,000	.004433	.002266	.....	.....	
29,500	59,000	.006667	.002234	.....	.....	
30,000	60,000	.008300	.001633	.....	.....	
47,250	94,500	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section ..... pounds.. 56,00
Compression per inch under stress at elastic limit ..... inch.. 0.00200
Ultimate strength per square inch of original section ..... pounds.. 94,50
Manner of failure ..... triple flexur

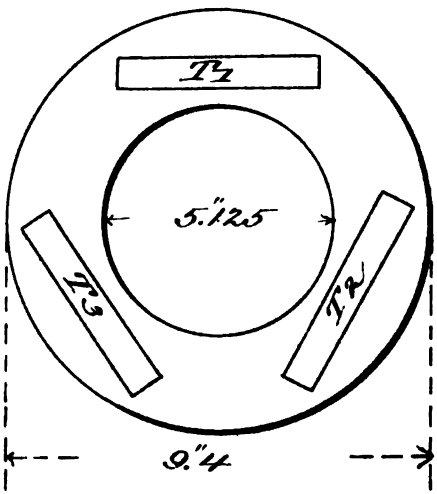
SPECIMENS FROM STEEL TRUNNION HOOPS

FOR

3″.2 STEEL B. L. RIFLES.

Trunnion Hoop 3.2" Rifle.

General drawing showing positions from whence specimens were taken.



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SPECIMENS FROM STEEL TRUNNION HOOPS FOR 3″.2 STEEL RIFLES.

No. 2051.

Marks, $^{32\ T\ H_1}_{T}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	*Per square inch.*					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
7,200	36,000	.001150	.000050	.....	.....	
7,400	37,000	.001150	0.	.....	.....	
7,600	38,000	.001200	.000050	.....	.....	
7,800	39,000	.001250	.000050	.....	.....	
8,000	40,000	.001300	.000050	0.	.....	
8,200	41,000	.001350	.000050	.....	.....	
8,400	42,000	.001400	.000050	.....	.....	
8,600	43,000	.001450	.000050	.....	.....	
8,800	44,000	.001500	.000050	.....	.....	
9,000	45,000	.001550	.000050	0.	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001650	.000050	.....	.....	Elastic limit.
9,600	48,000	.001800	.000150	.....	.....	
9,800	49,000	.001950	.000150	.....	.....	
10,000	50,000	.002550	.000600	.000800	.000800	
10,200	51,000	.003350	.000800	.....	.....	
10,400	52,000	.004100	.000750	.....	.....	
10,600	53,000	.004900	.000800	.....	.....	
10,800	54,000	.006200	.001300	.....	.....	
11,000	55,000	.006800	.000400	.....	.....	
11,200	56,000	.007850	.000750	.....	.....	
11,400	57,000	.008350	.001000	.....	.....	
11,600	58,000	.009350	.001000	.....	.....	
11,800	59,000	.010100	.000750	.....	.....	
12,000	60,000	.011100	.001000	.....	.....	
12,400	62,000	.013150	.002050	.....	.....	
12,800	64,000	.014950	.001800	.....	.....	
13,200	66,000	.017100	.002150	.....	.....	
13,600	68,000	.019250	.002150	.....	.....	
14,000	70,000	.021500	.002250	.....	.....	
14,400	72,000	.024500	.003000	.....	.....	
14,800	74,000	.027500	.003000	.....	.....	
15,200	76,000	.030600	.003100	.....	.....	
15,600	78,000	.034050	.003450	.....	.....	
16,000	80,000	.038000	.003950	.....	.....	
16,400	82,000	.042500	.004500	.....	.....	
16,800	84,000	.048000	.005500	.....	.....	
17,200	86,000	.054900	.006900	.....	.....	
17,600	88,000	.063500	.008600	.....	.....	
18,000	90,000	.0800	.0165	.....	.....	Tensile strength.
18,080	90,400	.....	.....	.....	.....	

General summary.

Specific gravity .....
Tensile strength per square inch of original section ..... pounds..
Elastic limit per square inch of original section ..... do...
Elongation per inch after rupture ..... inch..
Elongation per inch under strain at elastic limit ..... do...
Reduction in diameter at point of rupture ..... do...
Reduction in area after rupture, per centum of original section .....
Position of rupture .....
Character of broken surface .....
Elongation of inch sections ..... ″

No. 2052.

[illegible]

[illegible] area .20 square inch.

[illegible] loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
1,000	0.	0.	0.	0.	Initial load.
5,000	.000050	.000050	0.	.....	
10,000	.000150	.000100	0.	.....	
15,000	.000250	.000100	0.	.....	
20,000	.000400	.000150	0.	.....	
25,000	.000600	.000200	0.	.....	
30,000	.000750	.000150	0.	.....	
35,000	.000900	.000150	0.	.....	
40,000	.001100	.000200	0.	.....	
41,000	.001150	.000050	.....	.....	
42,000	.001200	.000050	.....	.....	
43,000	.001200	0.	.....	.....	
44,000	.001250	.000050	.....	.....	
45,000	.001300	.000050	0.	.....	
46,000	.001300	0.	.....	.....	
47,000	.001400	.000100	.....	.....	
48,000	.001450	.000050	.....	.....	Elastic limit.
49,000	.001600	.000150	.....	.....	
50,000	.002600	.001000	.001050	.001050	
51,000	.003700	.001100	.....	.....	
52,000	.004300	.000600	.....	.....	
53,000	.005300	.001000	.....	.....	
54,000	.006150	.000850	.....	.....	
55,000	.007100	.000950	.....	.....	
56,000	.008100	.001000	.....	.....	
57,000	.008850	.000750	.....	.....	
58,000	.009650	.000800	.....	.....	
59,000	.010600	.000950	.....	.....	
60,000	.011600	.001000	.....	.....	
62,000	.013750	.002150	.....	.....	
64,000	.015600	.001850	.....	.....	
66,000	.017600	.002000	.....	.....	
68,000	.020100	.002500	.....	.....	
70,000	.022600	.002500	.....	.....	
72,000	.025150	.002550	.....	.....	
74,000	.028050	.002900	.....	.....	
76,000	.032100	.004050	.....	.....	
78,000	.036750	.004650	.....	.....	
80,000	.041000	.004250	.....	.....	
82,000	.046000	.005000	.....	.....	
84,000	.051750	.005750	.....	.....	
86,000	.058050	.006300	.....	.....	
88,000	.065500	.007450	.....	.....	
90,000	.074500	.009000	.....	.....	
92,000	.084500	.010000	.....	.....	
94,000	.095500	.011000	.....	.....	
96,000	.107500	.012000	.....	.....	
98,000	.120500	.013000	.....	.....	
100,000	.134500	.014000	.....	.....	
102,000	.149500	.015000	.....	.....	
104,000	.165500	.016000	.....	.....	
106,000	.182500	.017000	.....	.....	
108,000	.200500	.018000	.....	.....	
110,000	.219500	.019000	.....	.....	
112,000	.239500	.020000	.....	.....	
114,000	.260500	.021000	.....	.....	
116,000	.282500	.022000	.....	.....	
118,000	.305500	.023000	.....	.....	
120,000	.329500	.024000	.....	.....	
122,000	.354500	.025000	.....	.....	
124,000	.380500	.026000	.....	.....	
126,000	.407500	.027000	.....	.....	
128,000	.435500	.028000	.....	.....	
130,000	.464500	.029000	.....	.....	
132,000	.494500	.030000	.....	.....	
134,000	.525500	.031000	.....	.....	
136,000	.557500	.032000	.....	.....	
138,000	.590500	.033000	.....	.....	
140,000	.624500	.034000	.....	.....	
142,000	.659500	.035000	.....	.....	
144,000	.695500	.036000	.....	.....	
146,000	.732500	.037000	.....	.....	
148,000	.770500	.038000	.....	.....	
150,000	.809500	.039000	.....	.....	
152,000	.849500	.040000	.....	.....	
154,000	.890500	.041000	.....	.....	
156,000	.932500	.042000	.....	.....	
158,000	.975500	.043000	.....	.....	
160,000	1.019500	.044000	.....	.....	
162,000	1.064500	.045000	.....	.....	
164,000	1.110500	.046000	.....	.....	
166,000	1.157500	.047000	.....	.....	
168,000	1.205500	.048000	.....	.....	
170,000	1.254500	.049000	.....	.....	
172,000	1.304500	.050000	.....	.....	
174,000	1.355500	.051000	.....	.....	
176,000	1.407500	.052000	.....	.....	
178,000	1.460500	.053000	.....	.....	
180,000	1.514500	.054000	.....	.....	
182,000	1.569500	.055000	.....	.....	
184,000	1.625500	.056000	.....	.....	
186,000	1.682500	.057000	.....	.....	
188,000	1.740500	.058000	.....	.....	
190,000	1.799500	.059000	.....	.....	
192,000	1.859500	.060000	.....	.....	
194,000	1.920500	.061000	.....	.....	
196,000	1.982500	.062000	.....	.....	
198,000	2.045500	.063000	.....	.....	
200,000	2.109500	.064000	.....	.....	
202,000	2.174500	.065000	.....	.....	
204,000	2.240500	.066000	.....	.....	
206,000	2.307500	.067000	.....	.....	
208,000	2.375500	.068000	.....	.....	
210,000	2.444500	.069000	.....	.....	
212,000	2.514500	.070000	.....	.....	
214,000	2.585500	.071000	.....	.....	
216,000	2.657500	.072000	.....	.....	
218,000	2.730500	.073000	.....	.....	
220,000	2.804500	.074000	.....	.....	
222,000	2.879500	.075000	.....	.....	
224,000	2.955500	.076000	.....	.....	
226,000	3.032500	.077000	.....	.....	
228,000	3.110500	.078000	.....	.....	
230,000	3.189500	.079000	.....	.....	
232,000	3.269500	.080000	.....	.....	
234,000	3.350500	.081000	.....	.....	
236,000	3.432500	.082000	.....	.....	
238,000	3.515500	.083000	.....	.....	
240,000	3.599500	.084000	.....	.....	
242,000	3.684500	.085000	.....	.....	
244,000	3.770500	.086000	.....	.....	
246,000	3.857500	.087000	.....	.....	
248,000	3.945500	.088000	.....	.....	
250,000	4.034500	.089000	.....	.....	
252,000	4.124500	.090000	.....	.....	
254,000	4.215500	.091000	.....	.....	
256,000	4.307500	.092000	.....	.....	
258,000	4.400500	.093000	.....	.....	
260,000	4.494500	.094000	.....	.....	
262,000	4.589500	.095000	.....	.....	
264,000	4.685500	.096000	.....	.....	
266,000	4.782500	.097000	.....	.....	
268,000	4.880500	.098000	.....	.....	
270,000	4.979500	.099000	.....	.....	
272,000	5.079500	.100000	.....	.....	
274,000	5.180500	.101000	.....	.....	
276,000	5.282500	.102000	.....	.....	
278,000	5.385500	.103000	.....	.....	
280,000	5.489500	.104000	.....	.....	
282,000	5.594500	.105000	.....	.....	
284,000	5.700500	.106000	.....	.....	
286,000	5.807500	.107000	.....	.....	
288,000	5.915500	.108000	.....	.....	
290,000	6.024500	.109000	.....	.....	
292,000	6.134500	.110000	.....	.....	
294,000	6.245500	.111000	.....	.....	
296,000	6.357500	.112000	.....	.....	
298,000	6.470500	.113000	.....	.....	
300,000	6.584500	.114000	.....	.....	
302,000	6.699500	.115000	.....	.....	
304,000	6.815500	.116000	.....	.....	
306,000	6.932500	.117000	.....	.....	
308,000	7.050500	.118000	.....	.....	
310,000	7.169500	.119000	.....	.....	
312,000	7.289500	.120000	.....	.....	
314,000	7.410500	.121000	.....	.....	
316,000	7.532500	.122000	.....	.....	
318,000	7.655500	.123000	.....	.....	
320,000	7.779500	.124000	.....	.....	
322,000	7.904500	.125000	.....	.....	
324,000	8.030500	.126000	.....	.....	
326,000	8.157500	.127000	.....	.....	
328,000	8.285500	.128000	.....	.....	
330,000	8.414500	.129000	.....	.....	
332,000	8.544500	.130000	.....	.....	
334,000	8.675500	.131000	.....	.....	
336,000	8.807500	.132000	.....	.....	
338,000	8.940500	.133000	.....	.....	
340,000	9.074500	.134000	.....	.....	
342,000	9.209500	.135000	.....	.....	
344,000	9.345500	.136000	.....	.....	
346,000	9.482500	.137000	.....	.....	
348,000	9.620500	.138000	.....	.....	
350,000	9.759500	.139000	.....	.....	
352,000	9.899500	.140000	.....	.....	
354,000	10.040500	.141000	.....	.....	
356,000	10.182500	.142000	.....	.....	
358,000	10.325500	.143000	.....	.....	
360,000	10.469500	.144000	.....	.....	
362,000	10.614500	.145000	.....	.....	
364,000	10.760500	.146000	.....	.....	
366,000	10.907500	.147000	.....	.....	
368,000	11.055500	.148000	.....	.....	
370,000	11.204500	.149000	.....	.....	
372,000	11.354500	.150000	.....	.....	
374,000	11.505500	.151000	.....	.....	
376,000	11.657500	.152000	.....	.....	
378,000	11.810500	.153000	.....	.....	
380,000	11.964500	.154000	.....	.....	
382,000	12.119500	.155000	.....	.....	
384,000	12.275500	.156000	.....	.....	
386,000	12.432500	.157000	.....	.....	
388,000	12.590500	.158000	.....	.....	
390,000	12.749500	.159000	.....	.....	
392,000	12.909500	.160000	.....	.....	
394,000	13.070500	.161000	.....	.....	
396,000	13.232500	.162000	.....	.....	
398,000	13.395500	.163000	.....	.....	
400,000	13.559500	.164000	.....	.....	
402,000	13.724500	.165000	.....	.....	
404,000	13.890500	.166000	.....	.....	
406,000	14.057500	.167000	.....	.....	
408,000	14.225500	.168000	.....	.....	
410,000	14.394500	.169000	.....	.....	
412,000	14.564500	.170000	.....	.....	
414,000	14.735500	.171000	.....	.....	
416,000	14.907500	.172000	.....	.....	
418,000	15.080500	.173000	.....	.....	
420,000	15.254500	.174000	.....	.....	
422,000	15.429500	.175000	.....	.....	
424,000	15.605500	.176000	.....	.....	
426,000	15.782500	.177000	.....	.....	
428,000	15.960500	.178000	.....	.....	
430,000	16.139500	.179000	.....	.....	
432,000	16.319500	.180000	.....	.....	
434,000	16.500500	.181000	.....	.....	
436,000	16.682500	.182000	.....	.....	
438,000	16.865500	.183000	.....	.....	
440,000	17.049500	.184000	.....	.....	
442,000	17.234500	.185000	.....	.....	
444,000	17.420500	.186000	.....	.....	
446,000	17.607500	.187000	.....	.....	
448,000	17.795500	.188000	.....	.....	
450,000	17.984500	.189000	.....	.....	
452,000	18.174500	.190000	.....	.....	
454,000	18.365500	.191000	.....	.....	
456,000	18.557500	.192000	.....	.....	
458,000	18.750500	.193000	.....	.....	
460,000	18.944500	.194000	.....	.....	
462,000	19.139500	.195000	.....	.....	
464,000	19.335500	.196000	.....	.....	
466,000	19.532500	.197000	.....	.....	
468,000	19.730500	.198000	.....	.....	
470,000	19.929500	.199000	.....	.....	
472,000	20.129500	.200000	.....	.....	
474,000	20.330500	.201000	.....	.....	
476,000	20.532500	.202000	.....	.....	
478,000	20.735500	.203000	.....	.....	
480,000	20.939500	.204000	.....	.....	
482,000	21.144500	.205000	.....	.....	
484,000	21.350500	.206000	.....	.....	
486,000	21.557500	.207000	.....	.....	
488,000	21.765500	.208000	.....	.....	
490,000	21.974500	.209000	.....	.....	
492,000	22.184500	.210000	.....	.....	
494,000	22.395500	.211000	.....	.....	
496,000	22.607500	.212000	.....	.....	
498,000	22.820500	.213000	.....	.....	
500,000	23.034500	.214000	.....	.....	
502,000	23.249500	.215000	.....	.....	
504,000	23.465500	.216000	.....	.....	
506,000	23.682500	.217000	.....	.....	
508,000	23.900500	.218000	.....	.....	
510,000	24.119500	.219000	.....	.....	
512,000	24.339500	.220000	.....	.....	
514,000	24.560500	.221000	.....	.....	
516,000	24.782500	.222000	.....	.....	
518,000	25.005500	.223000	.....	.....	
520,000	25.229500	.224000	.....	.....	
522,000	25.454500	.225000	.....	.....	
524,000	25.680500	.226000	.....	.....	
526,000	25.907500	.227000	.....	.....	
528,000	26.135500	.228000	.....	.....	
530,000	26.364500	.229000	.....	.....	
532,000	26.594500	.230000	.....	.....	
534,000	26.825500	.231000	.....	.....	
536,000	27.057500	.232000	.....	.....	
538,000	27.290500	.233000	.....	.....	
540,000	27.524500	.234000	.....	.....	
542,000	27.759500	.235000	.....	.....	
544,000	27.995500	.236000	.....	.....	
546,000	28.232500	.237000	.....	.....	
548,000	28.470500	.238000	.....	.....	
550,000	28.709500	.239000	.....	.....	
552,000	28.949500	.240000	.....	.....	
554,000	29.190500	.241000	.....	.....	
556,000	29.432500	.242000	.....	.....	
558,000	29.675500	.243000	.....	.....	
560,000	29.919500	.244000	.....	.....	
562,000	30.164500	.245000	.....	.....	
564,000	30.410500	.246000	.....	.....	
566,000	30.657500	.247000	.....	.....	
568,000	30.905500	.248000	.....	.....	
570,000	31.154500	.249000	.....	.....	
572,000	31.404500	.250000	.....	.....	
574,000	31.655500	.251000	.....	.....	
576,000	31.907500	.252000	.....	.....	
578,000	32.160500	.253000	.....	.....	
580,000	32.414500	.254000	.....	.....	
582,000	32.669500	.255000	.....	.....	
584,000	32.925500	.256000	.....	.....	
586,000	33.182500	.257000	.....	.....	
588,000	33.440500	.258000	.....	.....	
590,000	33.699500	.259000	.....	.....	
592,000	33.959500	.260000	.....	.....	
594,000	34.220500	.261000	.....	.....	
596,000	34.482500	.262000	.....	.....	
598,000	34.745500	.263000	.....	.....	
600,000	35.009500	.264000	.....	.....	
602,000	35.274500	.265000	.....	.....	
604,000	35.540500	.266000	.....	.....	
606,000	35.807500	.267000	.....	.....	
608,000	36.075500	.268000	.....	.....	
610,000	36.344500	.269000	.....	.....	
612,000	36.614500	.270000	.....	.....	
614,000	36.885500	.271000	.....	.....	
616,000	37.157500	.272000	.....	.....	
618,000	37.430500	.273000	.....	.....	
620,000	37.704500	.274000	.....	.....	
622,000	37.979500	.275000	.....	.....	
624,000	38.255500	.276000	.....	.....	
626,000	38.532500	.277000	.....	.....	
628,000	38.810500	.278000	.....	.....	
630,000	39.089500	.279000	.....	.....	
632,000	39.369500	.280000	.....	.....	
634,000	39.650500	.281000	.....	.....	
636,000	39.932500	.282000	.....	.....	
638,000	40.215500	.283000	.....	.....	
640,000	40.499500	.284000	.....	.....	
642,000	40.784500	.285000	.....	.....	
644,000	41.070500	.286000	.....	.....	
646,000	41.357500	.287000	.....	.....	
648,000	41.645500	.288000	.....	.....	
650,000	41.934500	.289000	.....	.....	
652,000	42.224500	.290000	.....	.....	
654,000	42.515500	.291000	.....	.....	
656,000	42.807500	.292000	.....	.....	
658,000	43.100500	.293000	.....	.....	
660,000	43.394500	.294000	.....	.....	
662,000	43.689500	.295000	.....	.....	
664,000	43.985500	.296000	.....	.....	
666,000	44.282500	.297000	.....	.....	
668,000	44.580500	.298000	.....	.....	
670,000	44.879500	.299000	.....	.....	
672,000	45.179500	.300000	.....	.....	
674,000	45.480500	.301000	.....	.....	
676,000	45.782500	.302000	.....	.....	
678,000	46.085500	.303000	.....	.....	
680,000	46.389500	.304000	.....	.....	
682,000	46.694500	.305000	.....	.....	
684,000	47.000500	.306000	.....	.....	
686,000	47.307500	.307000	.....	.....	
688,000	47.615500	.308000	.....	.....	
690,000	47.924500	.309000	.....	.....	
692,000	48.234500	.310000	.....	.....	
694,000	48.545500	.311000	.....	.....	
696,000	48.857500	.312000	.....	.....	
698,000	49.170500	.313000	.....	.....	
700,000	49.484500	.314000	.....	.....	
702,000	49.799500	.315000	.....	.....	
704,000	50.115500	.316000	.....	.....	
706,000	50.432500	.317000	.....	.....	
708,000	50.750500	.318000	.....	.....	
710,000	51.069500	.319000	.....	.....	
712,000	51.389500	.320000	.....	.....	
714,000	51.710500	.321000	.....	.....	
716,000	52.032500	.322000	.....	.....	
718,000	52.355500	.323000	.....	.....	
720,000	52.679500	.324000	.....	.....	
722,000	53.004500	.325000	.....	.....	
724,000	53.330500	.326000	.....	.....	
726,000	53.657500	.327000	.....	.....	
728,000	53.985500	.328000	.....	.....	
730,000	54.314500	.329000	.....	.....	
732,000	54.644500	.330000	.....	.....	
734,000	54.975500	.331000	.....	.....	
736,000	55.307500	.332000	.....	.....	
738,000	55.640500	.333000	.....	.....	
740,000	55.974500	.334000	.....	.....	
742,000	56.309500	.335000	.....	.....	
744,000	56.645500	.336000	.....	.....	
746,000	56.982500	.337000	.....	.....	
748,000	57.320500	.338000	.....	.....	
750,000	57.659500	.339000	.....	.....	
752,000	57.999500	.340000	.....	.....	
754,000	58.340500	.341000	.....	.....	
756,000	58.682500	.342000	.....	.....	
758,000	59.025500	.343000	.....	.....	
760,000	59.369500	.344000	.....	.....	
762,000	59.714500	.345000	.....	.....	
764,000	60.060500	.346000	.....	.....	
766,000	60.407500	.347000	.....	.....	
768,000	60.755500	.348000	.....	.....	
770,000	61.104500	.349000	.....	.....	
772,000	61.454500	.350000	.....	.....	
774,000	61.805500	.351000	.....	.....	
776,000	62.157500	.352000	.....	.....	
778,000	62.510500	.353000	.....	.....	
780,000	62.864500	.354000	.....	.....	
782,000	63.219500	.355000	.....	.....	
784,000	63.575500	.356000	.....	.....	
786,000	63.932500	.357000	.....	.....	
788,000	64.290500	.358000	.....	.....	
790,000	64.649500	.359000	.....	.....	
792,000	65.009500	.360000	.....	.....	
794,000	65.370500	.361000	.....	.....	
796,000	65.732500	.362000	.....	.....	
798,000	66.095500	.363000	.....	.....	
800,000	66.459500	.364000	.....	.....	
802,000	66.824500	.365000	.....	.....	
804,000	67.190500	.366000	.....	.....	
806,000	67.557500	.367000	.....	.....	
808,000	67.925500	.368000	.....	.....	
810,000	68.294500	.369000	.....	.....	
812,000	68.664500	.370000	.....	.....	
814,000	69.035500	.371000	.....	.....	
816,000	69.407500	.372000	.....	.....	
818,000	69.780500	.373000	.....	.....	
820,000	70.154500	.374000	.....	.....	
822,000	70.529500	.375000	.....	.....	
824,000	70.905500	.376000	.....	.....	
826,000	71.282500	.377000	.....	.....	
828,000	71.660500	.378000	.....	.....	
830,000	72.039500	.379000	.....	.....	
832,000	72.419500	.380000	.....	.....	
834,000	72.800500	.381000	.....	.....	
836,000	73.182500	.382000	.....	.....	
838,000	73.565500	.383000	.....	.....	
840,000	73.949500	.384000	.....	.....	
842,000	74.334500	.385000	.....	.....	
844,000	74.720500	.386000	.....	.....	
846,000	75.107500	.387000	.....	.....	
848,000	75.495500	.388000	.....	.....	
850,000	75.884500	.389000	.....	.....	
852,000	76.274500	.390000	.....	.....	
854,000	76.665500	.391000	.....	.....	
856,000	77.057500	.392000	.....	.....	
858,000	77.450500	.393000	.....	.....	
860,000	77.844500	.394000	.....	.....	
862,000	78.239500	.395000	.....	.....	
864,000	78.635500	.396000	.....	.....	
866,000	79.032500	.397000	.....	.....	
868,000	79.430500	.398000	.....	.....	
870,000	79.829500	.399000	.....	.....	
872,000	80.229500	.400000	.....	.....	
874,000	80.630500	.401000	.....	.....	
876,000	81.032500	.402000	.....	.....	
878,000	81.435500	.403000	.....	.....	
880,000	81.839500	.404000	.....	.....	
882,000	82.244500	.405000	.....	.....	
884,000	82.650500	.406000	.....	.....	
886,000	83.057500	.407000	.....	.....	
888,000	83.465500	.408000	.....	.....	
890,000	83.874500	.409000	.....	.....	
892,000	84.284500	.410000	.....	.....	
894,000	84.695500	.411000	.....	.....	
896,000	85.107500	.412000	.....	.....	
898,000	85.520500	.413000	.....	.....	
900,000	85.934500	.414000	.....	.....	
902,000	86.349500	.415000	.....	.....	
904,000	86.765500	.416000	.....	.....	
906,000	87.182500	.417000	.....	.....	
908,000	87.600500	.418000	.....	.....	
910,000	88.019500	.419000	.....	.....	
912,000	88.439500	.420000	.....	.....	
914,000	88.860500	.421000	.....	.....	
916,000	89.282500	.422000	.....	.....	
918,000	89.705500	.423000	.....	.....	
920,000	90.129500	.424000	.....	.....	
922,000	90.554500	.425000	.....	.....	
924,000	90.980500	.426000	.....	.....	
926,000	91.407500	.427000	.....	.....	
928,000	91.835500	.428000	.....	.....	
930,000	92.264500	.429000	.....	.....	
932,000	92.694500	.430000	.....	.....	
934,000	93.125500	.431000	.....	.....	
936,000	93.557500	.432000	.....	.....	
938,000	93.990500	.433000	.....	.....	
940,000	94.424500	.434000	.....	.....	
942,000	94.859500	.435000	.....	.....	
944,000	95.295500	.436000	.....	.....	
946,000	95.732500	.437000	.....	.....	
948,000	96.170500	.438000	.....	.....	
950,000	96.609500	.439000	.....	.....	
952,000	97.049500	.440000	.....	.....	
954,000	97.490500	.441000	.....	.....	
956,000	97.932500	.442000	.....	.....	
958,000	98.375500	.443000	.....	.....	
960,000	98.819500	.444000	.....	.....	
962,000	99.264500	.445000	.....	.....	
964,000	99.710500	.446000	.....	.....	
966,000	100.157500	.447000	.....	.....	
968,000	100.605500	.448000	.....	.....	
970,000	101.054500	.449000	.....	.....	
972,000	101.504500	.450000	.....	.....	
974,000	101.955500	.451000	.....	.....	
976,000	102.407500	.452000	.....	.....	
978,000	102.860500	.453000	.....	.....	
980,000	103.314500	.454000	.....	.....	
982,000	103.769500	.455000	.....	.....	
984,000	104.225500	.456000	.....	.....	
986,000	104.682500	.457000	.....	.....	
988,000	105.140500	.458000	.....	.....	
990,000	105.599500	.459000	.....	.....	
992,000	106.059500	.460000	.....	.....	
994,000	106.520500	.461000	.....	.....	
996,000	106.982500	.462000	.....	.....	
998,000	107.445500	.463000	.....	.....	
1,000,000	107.909500	.464000	.....	.....	
1,002,000	108.374500	.465000	.....	.....	
1,004,000	108.840500	.466000	.....	.....	
1,006,000	109.307500	.467000	.....	.....	
1,008,000	109.775500	.468000	.....	.....	
1,010,000	110.244500	.469000	.....	.....	
1,012,000	110.714500	.470000	.....	.....	
1,014,000	111.185500	.471000	.....	.....	
1,016,000	111.657500	.472000	.....	.....	
1,018,000	112.130500	.473000	.....	.....	
1,020,000	112.604500	.474000	.....	.....	
1,022,000	113.079500	.475000	.....	.....	
1,024,000	113.555500	.476000	.....	.....	
1,026,000	114.032500	.477000	.....	.....	
1,028,000	114.510500	.478000	.....	.....	
1,030,000	114.989500	.479000	.....	.....	
1,032,000	115.469500	.480000	.....	.....	
1,034,000	115.950500	.481000	.....	.....	
1,036,000	116.432500	.482000	.....	.....	
1,038,000	116.915500	.483000	.....	.....	
1,040,000	117.399500	.484000	.....	.....	
1,042,000	117.884500	.485000	.....	.....	
1,044,000	118.370500	.486000	.....	.....	
1,046,000	118.857500	.487000	.....	.....	
1,048,000	119.345500	.488000	.....	.....	
1,050,000	119.834500	.489000	.....	.....	
1,052,000	120.324500	.490000	.....	.....	
1,054,000	120.815500	.491000	.....	.....	
1,056,000	121.307500	.492000	.....	.....	
1,058,000	121.800500	.493000	.....	.....	
1,060,000	122.294500	.494000	.....	.....	
1,062,000	122.789500	.495000	.....	.....	
1,064,000	123.285500	.496000	.....	.....	
1,066,000	123.782500	.497000	.....	.....	
1,068,000	124.280500	.498000	.....	.....	
1,070,000	124.779500	.499000	.....	.....	
1,072,000	125.279500	.500000	.....	.....	
1,074,000	125.780500	.501000	.....	.....	
1,076,000	126.282500	.502000	.....	.....	
1,078,000	126.785500	.503000	.....	.....	
1,080,000	127.289500	.504000	.....	.....	
1,082,000	127.794500	.505000	.....	.....	
1,084,000	128.300500	.506000	.....	.....	
1,086,000	128.807500	.507000	.....	.....	
1,088,000	129.315500	.508000	.....	.....	
1,090,000	129.824500	.509000	.....	.....	
1,092,000	130.334500	.510000	.....	.....	
1,094,000	130.845500	.511000	.....	.....	
1,096,000	131.357500

No. 2053.

Marks, $^{32}\frac{T\ H_1}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.	.....	
2,000	10,000	.000150	.000100	0.	.....	
3,000	15,000	.000250	.000100	0.	.....	
4,000	20,000	.000450	.000200	0.	.....	
5,000	25,000	.000650	.000200	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001100	.000150	— .000050	— .000050	
8,200	41,000	.001100	0.	.....	.....	
8,400	42,000	.001150	.000050	.....	.....	
8,600	43,000	.001200	.000050	.....	.....	
8,800	44,000	.001250	.000050	.....	.....	
9,000	45,000	.001300	.000050	.000000	.000050	
9,200	46,000	.001350	.000050	.....	.....	
9,400	47,000	.001400	.000050	.....	.....	
9,600	48,000	.001450	.000050	.....	.....	
9,800	49,000	.001500	.000050	.....	.....	
10,000	50,000	.001550	.000050	.000150	.000150	Elastic limit.
10,200	51,000	.002500	.000950	.....	.....	
10,400	52,000	.003600	.001100	.....	.....	
10,600	53,000	.004650	.001050	.....	.....	
10,800	54,000	.005800	.001150	.....	.....	
11,000	55,000	.007000	.001200	.....	.....	
11,200	56,000	.007750	.000750	.....	.....	
11,400	57,000	.008350	.000600	.....	.....	
11,600	58,000	.009150	.000800	.....	.....	
11,800	59,000	.009950	.000800	.....	.....	
12,000	60,000	.010950	.001000	.....	.....	
12,400	62,000	.012900	.001950	.....	.....	
12,800	64,000	.015500	.002600	.....	.....	
13,200	66,000	.018000	.002500	.....	.....	
13,600	68,000	.020000	.002000	.....	.....	
14,000	70,000	.022500	.002500	.....	.....	
14,400	72,000	.024900	.002400	.....	.....	
14,800	74,000	.028050	.003150	.....	.....	
15,200	76,000	.031550	.003500	.....	.....	
15,600	78,000	.034500	.002950	.....	.....	
16,000	80,000	.039500	.005000	.....	.....	
16,400	82,000	.044500	.005000	.....	.....	
16,800	84,000	.049550	.005050	.....	.....	
17,200	86,000	.056750	.007200	.....	.....	
17,600	88,000	.065750	.009000	.....	.....	
18,000	90,000	.0850	.019250	.....	.....	
18,280	91,480	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,480
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.1200
Elongation per inch under strain at elastic limit	do...	.001550
Reduction in diameter at point of rupture	do...	.035
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		at middle of stem
Character of broken surface		granular; surface cracks in stem
Elongation of inch sections		".13*, ".11

NEW TRUNNION HOOP, NO. 1.

No. 2374.

Marks, $\frac{32\ T\ H_1}{T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001000	.000100	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	
10,200	51,000	.001550	0.	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001750	.000100	.....	.....	Elastic limit.
11,000	55,000	.002500	.000750	.....	.....	
11,200	56,000	.003600	.001100	.....	.....	
11,400	57,000	.004650	.001050	.....	.....	
11,600	58,000	.005650	.001000	.....	.....	
11,800	59,000	.006600	.000950	.....	.....	
12,000	60,000	.007500	.000900	.....	.....	
12,400	62,000	.009000	.001500	.....	.....	
12,800	64,000	.010500	.001500	.....	.....	
13,200	66,000	.012350	.001850	.....	.....	
13,600	68,000	.014250	.001900	.....	.....	
14,000	70,000	.016050	.001800	.....	.....	
14,400	72,000	.017750	.001700	.....	.....	
14,800	74,000	.020000	.002250	.....	.....	
15,200	76,000	.021700	.001700	.....	.....	
15,600	78,000	.024250	.002550	.....	.....	
16,000	80,000	.027000	.002750	.....	.....	
16,400	82,000	.030050	.003050	.....	.....	
16,800	84,000	.032850	.002800	.....	.....	
17,200	86,000	.036150	.003300	.....	.....	
17,600	88,000	.040250	.004100	.....	.....	
18,000	90,000	.044800	.004550	.....	.....	
18,400	92,000	.051000	.006200	.....	.....	
18,800	94,000	.058500	.007500	.....	.....	
19,200	96,000	.0650	.0065	.....	.....	
19,600	98,000	.0800	.0150	.....	.....	
20,000	100,000	.1300	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,000
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1550
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.055
Reduction in area after rupture, per centum of original section		20.5
Position of rupture		§ inch from neck
Character of broken surface, granular; radiating from a point in the circumference; opened cracks in surface of stem.		
Elongation of inch sections		".19", ".12

No. 2375.

Marks, $\frac{32\ T\ H}{T_5}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000400	.000250	0.	.....	
3,000	15,000	.000550	.000150	0.	.....	
4,000	20,000	.000750	.000200	0.	.....	
5,000	25,000	.000900	.000150	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001250	.000200	.....	.....	
8,000	40,000	.001400	.000150	.....	.....	
9,000	45,000	.001550	.000150	.....	.....	
10,000	50,000	.001750	.000200	.....	.....	
10,200	51,000	.001800	.000050	.....	.....	
10,400	52,000	.001850	.000050	.....	.....	
10,600	53,000	.001850	0.	.....	.....	
10,800	54,000	.001900	.000050	.....	.....	
11,000	55,000	.001950	.000050	.....	.....	Elastic limit.
11,200	56,000	.003950	.002000	.....	.....	
11,400	57,000	.004950	.001000	.....	.....	
11,600	58,000	.005950	.001000	.....	.....	
11,800	59,000	.007000	.001050	.....	.....	
12,000	60,000	.008000	.001000	.....	.....	
12,400	62,000	.009500	.001500	.....	.....	
12,800	64,000	.011250	.001750	.....	.....	
13,200	66,000	.013050	.001800	.....	.....	
13,600	68,000	.015000	.001950	.....	.....	
14,000	70,000	.017000	.002000	.....	.....	
14,400	72,000	.018750	.001750	.....	.....	
14,800	74,000	.020650	.001900	.....	.....	
15,200	76,000	.023050	.002400	.....	.....	
15,600	78,000	.025650	.002600	.....	.....	
16,000	80,000	.028250	.002600	.....	.....	
16,400	82,000	.031050	.002800	.....	.....	
16,800	84,000	.034500	.003450	.....	.....	
17,200	86,000	.038000	.003500	.....	.....	
17,600	88,000	.043500	.005500	.....	.....	
18,000	90,000	.048000	.004500	.....	.....	
18,400	92,000	.054000	.006000	.....	.....	
18,800	94,000	.0650	.0110	.....	.....	
19,200	96,000	.0750	.0100	.....	.....	
19,580	97,900	.1050	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,900
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.001950
Reduction in diameter at point of rupture	do...	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".32", ".10

No. 2376.

Marks, $\frac{32\ T\ H}{T_8}$,
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	.....	.....	
10,000	50,000	.001550	.000200	.....	.....	
11,000	55,000	.001750	.000200	.....	.....	
11,200	56,000	.001800	.000050	.....	.....	Elastic limit.
11,400	57,000	.002550	.000750	.....	.....	
11,600	58,000	.003950	.001400	.....	.....	
11,800	59,000	.004950	.001000	.....	.....	
12,000	60,000	.005900	.000950	.....	.....	
12,400	62,000	.007950	.002050	.....	.....	
12,800	64,000	.009350	.001400	.....	.....	
13,200	66,000	.011250	.001900	.....	.....	
13,600	68,000	.013100	.001850	.....	.....	
14,000	70,000	.014750	.001650	.....	.....	
14,400	72,000	.016750	.002000	.....	.....	
14,800	74,000	.018500	.001750	.....	.....	
15,200	76,000	.020600	.002100	.....	.....	
15,600	78,000	.023000	.002400	.....	.....	
16,000	80,000	.025600	.002600	.....	.....	
16,400	82,000	.028500	.002900	.....	.....	
16,800	84,000	.031500	.003000	.....	.....	
17,200	86,000	.034750	.003250	.....	.....	
17,600	88,000	.038500	.003750	.....	.....	
18,000	90,000	.043400	.004900	.....	.....	
18,400	92,000	.048000	.004600	.....	.....	
18,800	94,000	.053500	.005500	.....	.....	
19,200	96,000	.0650	.0115	.....	.....	
19,600	98,000	.0750	.0100	.....	.....	
20,000	100,000	.0958	.0200	.....	.....	
20,220	101,100	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	101,100
Elastic limit per square inch of original section	do...	56,000
Elongation per inch after rupture	inch..	0.1600
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		⅜ inch from neck
Character of broken surface, granular; dull center and spot at circumference; opened cracks in surface of stem.		
Elongation of inch sections		.20", ".12

No. 2218.

Marks, $\frac{32\ T\ H_2}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001550	.000200	0.	.....	
10,000	50,000	.001800	.000250	0.	.....	
10,200	51,000	.001800	0.	.....	.....	
10,400	52,000	.001850	.000050	.....	.....	Elastic limit.
10,600	53,000	.002150	.000300	.....	.....	
10,800	54,000	.003000	.000850	.....	.....	
11,000	55,000	.005000	.002000	.....	.....	
11,200	56,000	.007000	.002000	.....	.....	
11,400	57,000	.008500	.001500	.....	.....	
11,600	58,000	.009600	.001100	.....	.....	
11,800	59,000	.010350	.000750	.....	.....	
12,000	60,000	.011300	.000950	.....	.....	
12,400	62,000	.013050	.001750	.....	.....	
12,800	64,000	.015000	.001950	.....	.....	
13,200	66,000	.017050	.002050	.....	.....	
13,600	68,000	.019800	.002750	.....	.....	
14,000	70,000	.022500	.002700	.....	.....	
14,400	72,000	.025500	.003000	.....	.....	
14,800	74,000	.028000	.002500	.....	.....	
15,200	76,000	.030100	.002100	.....	.....	
15,600	78,000	.034000	.003900	.....	.....	
16,000	80,000	.038000	.004000	.....	.....	
16,400	82,000	.043000	.005000	.....	.....	
16,800	84,000	.049000	.006000	.....	.....	
17,200	86,000	.056000	.007000	.....	.....	
17,600	88,000	.066250	.010250	.....	.....	
18,000	90,000	.0850	.018750	.....	.....	
18,370	91,850	.1200	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,850
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1400
Elongation per inch under strain at elastic limit	do ..	.001850
Reduction in diameter at point of rupture	do...	.045
Reduction in area after rupture, per centum of original section		16.9
Position of rupture		″.1 from middle of stem
Character of broken surface...granular; dull spot at circumference; opened cracks in surface of stem		
Elongation of inch sections		″.16*, ″.12

No. 2219.

Marks, $\frac{32\ T\ H_2}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000550	.000200	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001600	.000250	0.	.....	
10,200	51,000	.001600	0.	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001750	.000050	.....	.....	Elastic limit.
11,000	55,000	.010700	.008950	.....	.....	
11,200	56,000	.011650	.000950	.....	.....	
11,400	57,000	.012250	.000600	.....	.....	
11,600	58,000	.013250	.001000	.....	.....	
11,800	59,000	.014350	.001100	.....	.....	
12,000	60,000	.015500	.001150	.....	.....	
12,400	62,000	.017850	.002350	.....	.....	
12,800	64,000	.020100	.002250	.....	.....	
13,200	66,000	.023000	.002900	.....	.....	
13,600	68,000	.025750	.002750	.....	.....	
14,000	70,000	.029000	.003250	.....	.....	
14,400	72,000	.032450	.003450	.....	.....	
14,800	74,000	.036400	.003950	.....	.....	
15,200	76,000	.040600	.004200	.....	.....	
15,600	78,000	.046550	.005950	.....	.....	
16,000	80,000	.053500	.006950	.....	.....	
16,400	82,000	.062000	.008500	.....	.....	
16,800	84,000	.0800	.0180	.....	.....	
17,200	86,000	.1000	.0200	.....	.....	
17,510	87,550	.1500	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,550
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.150
Elongation per inch under strain at elastic limit	do...	.00175
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		".1 from middle of stem
Character of broken surface		silky; small granular spot near center
Elongation of inch sections		".25", ".14

No. 2220.

Marks, $\frac{32\ T\ H_2}{T_1}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
10,000	50,000	.001700	.000200	0.	.....	
10,200	51,000	.001700	0.	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001800 .007500	0. .005900	.....	.....	Elastic limit.
11,000	55,000	.008500	.001000	.....	.....	
11,200	56,000	.009350	.000850	.....	.....	
11,400	57,000	.010350	.001000	.....	.....	
11,600	58,000	.011250	.000900	.....	.....	
11,800	59,000	.012250	.001000	.....	.....	
12,000	60,000	.013500	.001250	.....	.....	
12,400	62,000	.015400	.001900	.....	.....	
12,800	64,000	.017550	.002150	.....	.....	
13,200	66,000	.020100	.002550	.....	.....	
13,600	68,000	.022650	.002550	.....	.....	
14,000	70,000	.025600	.002950	.....	.....	
14,400	72,000	.028600	.003000	.....	.....	
14,800	74,000	.031900	.003300	.....	.....	
15,200	76,000	.036600	.004700	.....	.....	
15,600	78,000	.041000	.004400	.....	.....	
16,000	80,000	.046250	.005250	.....	.....	
16,400	82,000	.053000	.006750	.....	.....	
16,800	84,000	.061750	.008750	.....	.....	
17,200	86,000	.0750	.013250	.....	.....	
17,500	87,500	.1000	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,500
Elastic limit per square inch of original section	do...	54.000
Elongation per inch after rupture	inch..	0.1050
Elongation per inch under strain at elastic limit	do ..	.001800
Reduction in diameter at point of rupture	do...	.034
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		″.40 from neck
Character of broken surface... granular; dull spot at circumference; opened cracks in surface of stem		
Elongation of inch sections		″.08, ″.13*

NEW TRUNNION HOOP, NO. 2.

No. 2510.

Marks, $\frac{32\ T\ H_2}{T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000300	.000100	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000700	.000250	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001400	.000200	0.	.....	
9,000	45,000	.001600	.000200	.....	.....	
10,000	50,000	.001700	.000100	.....	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	
10,600	53,000	.001900	.000100	.....	.....	Elastic limit.
10,800	54,000	.002600	.000700	.....	.....	
11,000	55,000	.003100	.000500	.....	.....	
11,200	56,000	.004300	.001200	.....	.....	
11,400	57,000	.005100	.000800	.....	.....	
11,600	58,000	.005850	.000750	.....	.....	
11,800	59,000	.006700	.000850	.....	.....	
12,000	60,000	.007750	.001050	.....	.....	
12,400	62,000	.009750	.002000	.....	.....	
12,800	64,000	.011750	.002000	.....	.....	
13,200	66,000	.014000	.002250	.....	.....	
13,600	68,000	.015650	.001650	.....	.....	
14,000	70,000	.017550	.001900	.....	.....	
14,400	72,000	.019750	.002200	.....	.....	
14,800	74,000	.022150	.002400	.....	.....	
15,200	76,000	.024500	.002350	.....	.....	
15,600	78,000	.027200	.002700	.....	.....	
16,000	80,000	.030400	.003200	.....	.....	
16,400	82,000	.034000	.003600	.....	.....	
16,800	84,000	.037350	.003350	.....	.....	
17,200	86,000	.041500	.004150	.....	.....	
17,600	88,000	.047250	.005750	.....	.....	
18,000	90,000	.0550	.007750	.....	.....	
18,400	92,000	.0600	.0050	.....	.....	
18,800	94,000	.0750	.0150	.....	.....	
19,180	95,900	.1100	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,900
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.1550
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".45 from neck
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		".24", ".70

No. 2511.

Marks, $\frac{32\ T\ H_2}{T_5}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000700	.000250	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001100	.000250	0.	.....	
7,000	35,000	.001300	.000200	0.	.....	
8,000	40,000	.001450	.000150	0.	.....	
9,000	45,000	.001600	.000150	.....	.....	
10,000	50,000	.001750	.000150	.....	.....	
10,200	51,000	.001800	.000050	.....	.....	
10,400	52,000	.001800	0.	.....	.....	
10,600	53,000	.001850	.000050	.....	.....	
10,800	54,000	.001900	.000050	.....	.....	
11,000	55,000	.001950	.000050	.....	.....	
11,200	56,000	.002050	.000100	.....	.....	
11,400	57,000	.002100	.000050	.....	.....	
11,600	58,000	.002200	.000100	.....	.....	Elastic limit.
11,800	59,000	.002450	.000250	.....	.....	
12,000	60,000	.003150	.000700	.....	.....	
12,400	62,000	.005050	.001900	.....	.....	
12,800	64,000	.006700	.001650	.....	.....	
13,200	66,000	.008600	.001900	.....	.....	
13,600	68,000	.010350	.001750	.....	.....	
14,000	70,000	.012300	.001950	.....	.....	
14,400	72,000	.015000	.002700	.....	.....	
14,800	74,000	.016750	.001750	.....	.....	
15,200	76,000	.017900	.001150	.....	.....	
15,600	78,000	.019500	.001600	.....	.....	
16,000	80,000	.022400	.002900	.....	.....	
16,400	82,000	.025250	.002850	.....	.....	
16,800	84,000	.027550	.002300	.....	.....	
17,200	86,000	.030600	.003050	.....	.....	
17,600	88,000	.034000	.003400	.....	.....	
18,000	90,000	.037750	.003750	.....	.....	
18,400	92,000	.042250	.004500	.....	.....	
18,800	94,000	.046500	.004250	.....	.....	
19,200	96,000	.0550	.0085	.....	.....	
19,600	98,000	.0600	.0050	.....	.....	
20,000	100,000	.0650	.0050	.....	.....	
20,400	102,000	.1000	.0350	.....	.....	
20,420	102,100	.1200	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	102,100
Elastic limit per square inch of original section	do...	58,000
Elongation per inch after rupture	inch..	0.1450
Elongation per inch under strain at elastic limit	do...	.002200
Reduction in diameter at point of rupture	do...	.065
Reduction in area after rupture, per centum of original section		23.9
Position of rupture		⅞ inch from a neck
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		″.20, ″.09

No. 2512.

Marks, $\frac{32\ T\ H_2}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000450	.000100	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000750	.000100	0.	.....	
6,000	30,000	.001000	.000250	0.	.....	
7,000	35,000	.001100	.000100	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001350	.000100	.....	.....	
10,000	50,000	.001600	.000250	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	
11,000	55,000	.001850	.000050	.....	.....	Elastic limit.
11,200	56,000	.002100	.000250	.....	.....	
11,400	57,000	.002700	.000600	.....	.....	
11,600	58,000	.003750	.001050	.....	.....	
11,800	59,000	.004600	.000850	.....	.....	
12,000	60,000	.005600	.001000	.....	.....	
12,400	62,000	.007550	.001950	.....	.....	
12,800	64,000	.009000	.001450	.....	.....	
13,200	66,000	.011000	.002000	.....	.....	
13,600	68,000	.012500	.001500	.....	.....	
14,000	70,000	.014600	.002100	.....	.....	
14,400	72,000	.016550	.001950	.....	.....	
14,800	74,000	.018750	.002200	.....	.....	
15,200	76,000	.020750	.002000	.....	.....	
15,600	78,000	.023250	.002500	.....	.....	
16,000	80,000	.025850	.002600	.....	.....	
16,400	82,000	.029000	.003150	.....	.....	
16,800	84,000	.032000	.003000	.....	.....	
17,200	86,000	.036000	.004000	.....	.....	
17,600	88,000	.040000	.004000	.....	.....	
18,000	90,000	.044750	.004750	.....	.....	
18,400	92,000	.0500	.005250	.....	.....	
18,800	94,000	.0550	.0050	.....	.....	
19,200	96,000	.0650	.0100	.....	.....	
19,600	98,000	.0950	.0300	.....	.....	
19,740	98,700	.1100	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,700
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		″.17 from neck
Character of broken surface		silky
Elongation of inch sections		″.17, ″.24

No. 2282.

Marks, $\frac{32\ T\ H_2}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000500	.000100	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001150	.000200	0.	.....	
9,000	45,000	.001350	.000200	0.	.....	
10,000	50,000	.001500	.000200	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	Elastic limit.
10,600	53,000	.002100	.000450	.....	.....	
10,800	54,000	.002700	.000600	.....	.....	
11,000	55,000	.004000	.001300	.....	.....	
11,200	56,000	.004650	.000650	.....	.....	
11,400	57,000	.005500	.000850	.....	.....	
11,600	58,000	.006200	.000700	.....	.....	
11,800	59,000	.007100	.000900	.....	.....	
12,000	60,000	.008100	.001000	.....	.....	
12,400	62,000	.009600	.001500	.....	.....	
12,800	64,000	.011250	.001650	.....	.....	
13,200	66,000	.013200	.001950	.....	.....	
13,600	68,000	.015050	.001850	.....	.....	
14,000	70,000	.017000	.001950	.....	.....	
14,400	72,000	.019100	.002100	.....	.....	
14,800	74,000	.021200	.002100	.....	.....	
15,200	76,000	.023200	.002000	.....	.....	
15,600	78,000	.025500	.002300	.....	.....	
16,000	80,000	.028250	.002750	.....	.....	
16,400	82,000	.031250	.003000	.....	.....	
16,800	84,000	.035000	.003750	.....	.....	
17,200	86,000	.038500	.003500	.....	.....	
17,600	88,000	.042750	.004250	.....	.....	
18,000	90,000	.047250	.004500	.....	.....	
18,400	92,000	.054500	.007250	.....	.....	
18,800	94,000	.0650	.0105	.....	.....	
19,200	96,000	.0850	.0200	.....	.....	
19,600	98,000	.1050	.0200	.....	.....	
19,650	98,250	.1300	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,250
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1950
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		½ inch from neck
Character of broken surface; granular; dull spot at circumference; opened cracks in stem in vicinity of rupture.		
Elongation of inch sections		".25* ".14

No. 2283.

Marks, $\frac{32\ T\ H_2}{T_2}$
Diameter, ".505.
Sectional area .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
10,000	50,000	.001600	.000150	0.	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	Elastic limit.
10,600	53,000	.001850	.000150	.....	.....	
10,800	54,000	.002700	.000850	.....	.....	
11,000	55,000	.003600	.000900	.....	.....	
11,200	56,000	.004600	.001000	.....	.....	
11,400	57,000	.005600	.001000	.....	.....	
11,600	58,000	.006350	.000750	.....	.....	
11,800	59,000	.007250	.000900	.....	.....	
12,000	60,000	.007800	.000550	.....	.....	
12,400	62,000	.009000	.001200	.....	.....	
12,800	64,000	.011000	.002000	.....	.....	
13,200	66,000	.012700	.001700	.....	.....	
13,600	68,000	.014600	.001900	.....	.....	
14,000	70,000	.016500	.001900	.....	.....	
14,400	72,000	.018500	.002000	.....	.....	
14,800	74,000	.020250	.001750	.....	.....	
15,200	76,000	.022450	.002200	.....	.....	
15,600	78,000	.024750	.002300	.....	.....	
16,000	80,000	.027500	.002750	.....	.....	
16,400	82,000	.030150	.002650	.....	.....	
16,800	84,000	.034000	.003850	.....	.....	
17,200	86,000	.037550	.003550	.....	.....	
17,600	88,000	.041750	.004200	.....	.....	
18,000	90,000	.047000	.005250	.....	.....	
18,400	92,000	.052750	.005750	.....	.....	
18,800	94,000	.0650	.012250	.....	.....	
19,200	96,000	.0750	.0100	.....	.....	
19,600	98,000	.0950	.0200	.....	.....	
19,660	98,300	.1150	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,300
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1950
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.092
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		".95 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".25", ".14

No. 2284.

Marks, $\frac{32\ T\ H_2}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001350	.000100	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	
10,200	51,000	.001650	.000100	.....	.....	Elastic limit.
10,400	52,000	.002050	.000400	.....	.....	
10,600	53,000	.002900	.000850	.....	.....	
10,800	54,000	.003750	.000850	.....	.....	
11,000	55,000	.004550	.000800	.....	.....	
11,200	56,000	.005300	.000750	.....	.....	
11,400	57,000	.006150	.000850	.....	.....	
11,600	58,000	.007000	.000850	.....	.....	
11,800	59,000	.007750	.000750	.....	.....	
12,000	60,000	.008650	.000900	.....	.....	
12,400	62,000	.010300	.001650	.....	.....	
12,800	64,000	.011750	.001450	.....	.....	
13,200	66,000	.013500	.001750	.....	.....	
13,600	68,000	.015600	.002100	.....	.....	
14,000	70,000	.017500	.001900	.....	.....	
14,400	72,000	.019300	.001800	.....	.....	
14,800	74,000	.021250	.001950	.....	.....	
15,200	76,000	.023500	.002250	.....	.....	
15,600	78,000	.026100	.002600	.....	.....	
16,000	80,000	.028650	.002550	.....	.....	
16,400	82,000	.032000	.003350	.....	.....	
16,800	84,000	.035000	.003000	.....	.....	
17,200	86,000	.039250	.004250	.....	.....	
17,600	88,000	.044000	.004750	.....	.....	
18,000	90,000	.049000	.005000	.....	.....	
18,400	92,000	.056000	.007000	.....	.....	
18,800	94,000	.0650	.0090	.....	.....	
19,200	96,000	.0800	.0150	.....	.....	
19,600	98,000	.1100	.0300	.....	.....	
19,620	98,100	.1300	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,100
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1350
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.035
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		″.1 from neck
Character of broken surface		granular; opened cracks in surface of stem
Elongation of inch sections		″.15°, ″.12

No. 2377.

Marks, $\frac{32\ T\ H_4}{T_1}$.
Diameter, $\frac{11}{16}$".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000450	.000250	0.	.....	
3,000	15,000	.000700	.000250	0.	.....	
4,000	20,000	.000900	.000200	0.	.....	
5,000	25,000	.001050	.000150	0.	.....	
6,000	30,000	.001200	.000150	0.	.....	
7,000	35,000	.001350	.000150	0.	.....	
8,000	40,000	.001500	.000150	0.	.....	
9,000	45,000	.001700	.000200	.....	.....	
10,000	50,000	.001950	.000250	.....	.....	
10,200	51,000	.002050	.000100	.....	.....	Elastic limit.
10,400	52,000	.002200	.000150	.....	.....	
10,600	53,000	.002450	.000250	.....	.....	
10,800	54,000	.002800	.000350	.....	.....	
11,000	55,000	.003300	.000500	.....	.....	
11,200	56,000	.003900	.000600	.....	.....	
11,400	57,000	.004750	.000850	.....	.....	
11,600	58,000	.005400	.000650	.....	.....	
11,800	59,000	.006450	.001050	.....	.....	
12,000	60,000	.007350	.000900	.....	.....	
12,400	62,000	.008900	.001550	.....	.....	
12,800	64,000	.010250	.001350	.....	.....	
13,200	66,000	.011600	.001350	.....	.....	
13,600	68,000	.013250	.001650	.....	.....	
14,000	70,000	.015250	.002000	.....	.....	
14,400	72,000	.017250	.002000	.....	.....	
14,800	74,000	.018750	.001500	.....	.....	
15,200	76,000	.021000	.002250	.....	.....	
15,600	78,000	.023100	.002100	.....	.....	
16,000	80,000	.026000	.002900	.....	.....	
16,400	82,000	.028750	.002750	.....	.....	
16,800	84,000	.032000	.003250	.....	.....	
17,200	86,000	.035250	.003250	.....	.....	
17,600	88,000	.039500	.004250	.....	.....	
18,000	90,000	.044000	.004500	.....	.....	
18,400	92,000	.049350	.005350	.....	.....	
18,800	94,000	.051250	.006900	.....	.....	
19,200	96,000	.0650	.008750	.....	.....	
19,600	98,000	.0900	.0250	.....	.....	
19,920	99,600	.1250	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,600
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1600
Elongation per inch under strain at elastic limit	do...	.002050
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		½ inch from neck

Character of broken surface, granular; dull spot at circumference; opened cracks in stem near point of rupture.
Elongation of inch sections.....".11, ".21*

No. 2378.

Marks, $\frac{32\ T\ H_4}{T_3}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	.000100	.000100	
2,000	10,000	.000450	.000250	.000100	0.	
3,000	15,000	.000650	.000200	.000100	0.	
4,000	20,000	.000850	.000200	.000100	0.	
5,000	25,000	.001050	.000200	.000150	.000050	
6,000	30,000	.001300	.000250	.000150	0.	
7,000	35,000	.001450	.000150	.....	.....	
8,000	40,000	.001600	.000150	.....	.....	
9,000	45,000	.001800	.000200	.....	.....	
10,000	50,000	.002000	.000200	.....	.....	
10,200	51,000	.002100	.000100	.....	.....	Elastic limit.
10,400	52,000	.002400	.000300	.....	.....	
10,600	53,000	.003300	.000900	.....	.....	
10,800	54,000	.004500	.001200	.....	.....	
11,000	55,000	.005550	.001050	.....	.....	
11,200	56,000	.006100	.000550	.....	.....	
11,400	57,000	.007050	.000950	.....	.....	
11,600	58,000	.007850	.000800	.....	.....	
11,800	59,000	.008550	.000700	.....	.....	
12,000	60,000	.009400	.000850	.....	.....	
12,400	62,000	.011000	.001600	.....	.....	
12,800	64,000	.012400	.001400	.....	.....	
13,200	66,000	.014000	.001600	.....	.....	
13,600	68,000	.015600	.001600	.....	.....	
14,000	70,000	.017500	.001900	.....	.....	
14,400	72,000	.019550	.002050	.....	.....	
14,800	74,000	.022000	.002450	.....	.....	
15,200	76,000	.024350	.002350	.....	.....	
15,600	78,000	.026550	.002200	.....	.....	
16,000	80,000	.028550	.002000	.....	.....	
16,400	82,000	.031500	.002950	.....	.....	
16,800	84,000	.035000	.003500	.....	.....	
17,200	86,000	.038250	.003250	.....	.....	
17,600	88,000	.042250	.004000	.....	.....	
18,000	90,000	.047500	.005250	.....	.....	
18,400	92,000	.053750	.006250	.....	.....	
18,800	94,000	.0600	.006250	.....	.....	
19,200	96,000	.0700	.0100	.....	.....	
19,600	98,000	.0900	.0200	.....	.....	
19,860	99,300	.1300	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,300
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.002100
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		".80 from neck
Character of broken surface, granular; dull spot at circumference; opened cracks in surface of stem, near point of rupture.		
Elongation of inch sections		".12, ".24*

No. 2379.

Marks, $\frac{32\ T\ H_4}{T_3}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001200	.000200	.....	.....	
8,000	40,000	.001400	.000200	.....	.....	
9,000	45,000	.001550	.000150	.....	.....	
10,000	50,000	.001750	.000200	.....	.....	
10,200	51,000	.001800	.000050	.....	.....	
10,400	52,000	.001850	.000050	.....	.....	
10,600	53,000	.001950	.000100	.....	.....	
10,800	54,000	.002050	.000100	.....	.....	Elastic limit.
11,000	55,000	.002300	.000250	.....	.....	
11,200	56,000	.002900	.000600	.....	.....	
11,400	57,000	.004050	.001150	.....	.....	
11,600	58,000	.004750	.000700	.....	.....	
11,800	59,000	.005250	.000500	.....	.....	
12,000	60,000	.006550	.001300	.....	.....	
12,400	62,000	.008300	.001750	.....	.....	
12,800	64,000	.010350	.002050	.....	.....	
13,200	66,000	.011750	.001400	.....	.....	
13,600	68,000	.013750	.002000	.....	.....	
14,000	70,000	.015900	.002150	.....	.....	
14,400	72,000	.017750	.001850	.....	.....	
14,800	74,000	.019750	.002000	.....	.....	
15,200	76,000	.022000	.002250	.....	.....	
15,600	78,000	.024 50	.002250	.....	.....	
16,000	80,000	.026800	.002550	.....	.....	
16,400	82,000	.029750	.002950	.....	.....	
16,800	84,000	.032750	.003000	.....	.....	
17,200	86,000	.036750	.004000	.....	.....	
17,600	88,000	.040600	.003850	.....	.....	
18,000	90,000	.045000	.004400	.....	.....	
18,400	92,000	.051000	.006000	.....	.....	
18,800	94,000	.0600	.0090	.....	.....	
19,200	96,000	.0650	.0050	.....	.....	
19,600	98,000	.0850	.0200	.....	.....	
19,920	99,600	.1300	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,600
Elastic limit per square inch of original section	do....	51,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do....	.002050
Reduction in diameter at point of rupture	do....	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		½ inch from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.25, ″.15

No. 2466.

Marks, $\frac{32\ T\ Hs}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100			
2,000	10,000	.000200	.000100			
3,000	15,000	.000350	.000150			
4,000	20,000	.000550	.000200			
5,000	25,000	.000750	.000200			
6,000	30,000	.000900	.000150			
7,000	35,000	.001100	.000200			
8,000	40,000	.001250	.000150			
9,000	45,000	.001450	.000200			
10,000	50,000	.001650	.000200			
10,200	51,000	.001700	.000050			
10,400	52,000	.001700	0.			
10,600	53,000	.001750	.000050			
10,800	54,000	.001800	.000050			
11,000	55,000	.001850	.000050			
11,200	56,000	.001900	.000050			Elastic limit.
11,400	57,000	.002300	.000400			
11,600	58,000	.003100	.000800			
11,800	59,000	.004900	.001800			
12,000	60,000	.006100	.001200			
12,400	62,000	.007750	.001650			
12,800	64,000	.009550	.001800			
13,200	66,000	.011050	.001500			
13,600	68,000	.012500	.001450			
14,000	70,000	.014300	.001800			
14,400	72,000	.016250	.001950			
14,800	74,000	.018500	.002250			
15,200	76,000	.020250	.001750			
15,600	78,000	.022500	.002250			
16,000	80,000	.025000	.002500			
16,400	82,000	.027550	.002550			
16,800	84,000	.030000	.002450			
17,200	86,000	.033550	.003550			
17,600	88,000	.037000	.003450			
18,000	90,000	.041000	.004000			
18,400	92,000	.046100	.005100			
18,800	94,000	.0550	.0089			
19,200	96,000	.0600	.0050			
19,600	98,000	.0700	.0100			
20,000	100,000	.1000	.0300			
20,180	100,900	.1350	.0350			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,900
Elastic limit per square inch of original section	do...	56,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do ..	.001900
Reduction in diameter at point of rupture	do..	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		½ inch from nock
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.25*, ″.13

No. 2467.

Marks, $\frac{32\ T\ H_8}{T_7}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000300	.000200	0.		
3,000	15,000	.000500	.000200	0.		
4,000	20,000	.000650	.000150	0.		
5,000	25,000	.000800	.000150	0.		
6,000	30,000	.000950	.000150	0.		
7,000	35,000	.001200	.000250			
8,000	40,000	.001350	.000150			
9,000	45,000	.001550	.000200			
10,000	50,000	.001700	.000150			
10,200	51,000	.001700	0.			
10,400	52,000	.001750	.000050			
10,600	53,000	.001800	.000050			
10,800	54,000	.001800	0.			
11,000	55,000	.001850	.000050			
11,200	56,000	.001900	.000050			Elastic limit.
11,400	57,000	.002500	.000600			
11,600	58,000	.004550	.002050			
11,800	59,000	.006000	.001450			
12,000	60,000	.006900	.000900			
12,400	62,000	.008250	.001350			
12,800	64,000	.009700	.001450			
13,200	66,000	.011400	.001700			
13,600	68,000	.012850	.001450			
14,000	70,000	.014900	.002050			
14,400	72,000	.016750	.001850			
14,800	74,000	.018750	.002000			
15,200	76,000	.020600	.001850			
15,600	78,000	.023150	.002550			
16,000	80,000	.025400	.002250			
16,400	82,000	.028100	.002700			
16,800	84,000	.030900	.002800			
17,200	86,000	.034250	.003350			
17,600	88,000	.038050	.003800			
18,000	90,000	.042250	.004200			
18,400	92,000	.047500	.005250			
18,800	94,000	.053250	.005750			
19,200	96,000	.0600	.006750			
19,600	98,000	.0750	.0150			
20,000	100,000	.1000	.0250			
20,100	100,500	.1350	.0350			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,500
Elastic limit per square inch of original section	do ..	56,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do ..	.001900
Reduction in diameter at point of rupture	do .	.095
Reduction in area after rupture, per centum of original section		34.9
Position of rupture		1".05 from neck
Character of broken surface	granular, 60 per centum; silky, 40 per centum	
Elongation of inch sections		".22", ".1

No. 2468.

Marks, $\frac{32\ T\ H_5}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	.0	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000450	.000250	0.	.....	
3,000	15,000	.000650	.000200	0.	.....	
4,000	20,000	.000800	.000150	0.	.....	
5,000	25,000	.001000	.000200	0.	.....	
6,000	30,000	.001200	.000200	.000050	.000050	
7,000	35,000	.001300	.000100	.....	.....	
8,000	40,000	.001450	.000150	.....	.....	
9,000	45,000	.001700	.000250	.....	.....	
10,000	50,000	.001850	.000150	.....	.....	
10,200	51,000	.001900	.000050	.....	.....	
10,400	52,000	.002000	.000100	.....	.....	Elastic limit.
10,600	53,000	.002200	.000200	.....	.....	
10,800	54,000	.002400	.0002.0	.....	.....	
11,000	55,000	.003700	.001300	.....	.....	
11,200	56,000	.005250	.001550	.....	.....	
11,400	57,000	.006100	.000850	.....	.....	
11,600	58,000	.006750	.000650	.....	.....	
11,800	59,000	.007600	.000850	.....	.....	
12,000	60,000	.008600	.001000	.....	.....	
12,400	62,000	.010100	.001500	.....	.....	
12,800	64,000	.012000	.001900	.....	.....	
13,200	66,000	.013500	.001500	.....	.....	
13,600	68,000	.015500	.002000	.....	.....	
14,000	70,000	.017100	.001600	.....	.....	
14,400	72,000	.019250	.002150	.....	.....	
14,800	74,000	.021100	.001850	.....	.....	
15,200	76,000	.023500	.002400	.....	.....	
15,600	78,000	.026050	.002550	.....	.....	
16,000	80,000	.029000	.002950	.....	.....	
16,400	82,000	.032500	.003500	.....	.....	
16,800	84,000	.035150	.002650	.....	.....	
17,200	86,000	.039000	.003850	.....	.....	
17,600	88,000	.043500	.004500	.....	.....	
18,000	90,000	.048500	.005000	.....	.....	
18,400	92,000	.0550	.0065	.....	.....	
18,800	94,000	.0600	.0050	.....	.....	
19,200	96,000	.0800	.0200	.....	.....	
19,560	97,800	.1200	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,800
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1750
Elongation per inch under strain at elastic limit	do...	.002000
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		1 inch from neck

Character of broken surface, granular; dull spot at circumference; opened cracks in stem in vicinity of rupture.

Elongation of inch sections ..... ″.20′, ″.15

No. 2285.

Marks, $\frac{32\ T\ H_8}{T}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000250	.000150	0.		
3,000	15,000	.000400	.000150	0.		
4,000	20,000	.000550	.000150	0.		
5,000	25,000	.000750	.000200	0.		
6,000	30,000	.000950	.000200	0.		
7,000	35,000	.001200	.000250	0.		
8,000	40,000	.001350	.000150	0.		
9,000	45,000	.001500	.000150	0.		
10,000	50,000	.001850	.000350	.000150	.000150	
10,200	51,000	.002100	.000250			
10,400	52,000	.002200	.000100			
10,600	53,000	.002250	.000050			Elastic limit.
10,800	54,000	.005000	.002750			
11,000	55,000	.007200	.002200			
11,200	56,000	.007900	.000700			
11,400	57,000	.008600	.000700			
11,600	58,000	.009300	.000700			
11,800	59,000	.010000	.000700			
12,000	60,000	.011150	.001150			
12,400	62,000	.012500	.001450			
12,800	64,000	.014250	.001750			
13,200	66,000	.016050	.001800			
13,600	68,000	.017900	.001850			
14,000	70,000	.019750	.001850			
14,400	72,000	.022000	.002250			
14,800	74,000	.024000	.002000			
15,200	76,000	.026550	.002550			
15,600	78,000	.029000	.002450			
16,000	80,000	.031750	.002750			
16,400	82,000	.035000	.003250			
16,800	84,000	.038300	.003300			
17,200	86,000	.042600	.004300			
17,600	88,000	.047850	.005250			
18,000	90,000	.053250	.005400			
18,400	92,000	.0600	.006750			
18,800	94,000	.0700	.0100			
19,200	96,000	.0950	.0250			
19,550	97,750	.1400	.0450			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,750
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.002258
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		½ inch from neck
Character of broken surface	silky; fine granulation at circumference	
Elongation of inch sections		″.31°, ″.11

No. 2286.

Marks, $\frac{32\ T\ H_8}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001450	.000300	0.	.....	
10,000	50,000	.001750	.000300	0.	.....	
10,200	51,000	.001800	.000050	.....	.....	
10,400	52,000	.001850	.000050	.....	.....	Elastic limit.
		.005250	.003400			
10,600	53,000	.006000	.001350	.....	.....	
10,800	54,000	.007200	.000600	.....	.....	
11,000	55,000	.007950	.000750	.....	.....	
11,200	56,000	.008750	.000800	.....	.....	
11,400	57,000	.009600	.000850	.....	.....	
11,600	58,000	.010350	.000750	.....	.....	
11,800	59,000	.011250	.000900	.....	.....	
12,000	60,000	.012150	.000900	.....	.....	
12,400	62,000	.013650	.001500	.....	.....	
12,800	64,000	.015300	.001650	.....	.....	
13,200	66,000	.017400	.002100	.....	.....	
13,600	68,000	.020000	.002600	.....	.....	
14,000	70,000	.021700	.001700	.....	.....	
14,400	72,000	.023250	.001550	.....	.....	
14,800	74,000	.026400	.003150	.....	.....	
15,200	76,000	.029000	.002600	.....	.....	
15,600	78,000	.031200	.002200	.....	.....	
16,000	80,000	.035250	.004050	.....	.....	
16,400	82,000	.039250	.004000	.....	.....	
16,800	84,000	.044000	.004750	.....	.....	
17,200	86,000	.048500	.004500	.....	.....	
17,600	88,000	.055500	.007000	.....	.....	
18,000	90,000	.0650	.0095	.....	.....	
18,400	92,000	.0800	.0150	.....	.....	
18,800	94,000	.0950	.0150	.....	.....	
19,120	95,600	.1400	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,600
Elastic limit per square inch of original section	do ..	52,000
Elongation per inch after rupture	inch..	0 2250
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		″.55 from neck
Character of broken surface		silky, with trace of granulation
Elongation of inch sections		″.32*, ″.13

No. 2287.

Marks, $\frac{32\ T\ H_6}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Sucessive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
10,000	50,000	.001600	.000150	0.	.....	
10,200	51,000	.001700	.000100	.....	.....	
10,400	52,000	.001800	.000100	.....	.....	Elastic limit.
10,600	53,000	.004600	.002800	.....	.....	
10,800	54,000	.005500	.000900	.....	.....	
11,000	55,000	.006250	.000750	.....	.....	
11,200	56,000	.007000	.000750	.....	.....	
11,400	57,000	.007850	.000850	.....	.....	
11,600	58,000	.008650	.000800	.....	.....	
11,800	59,000	.009250	.000600	.....	.....	
12,000	60,000	.010000	.000750	.....	.....	
12,400	62,000	.011750	.001750	.....	.....	
12,800	64,000	.013250	.001500	.....	.....	
13,200	66,000	.015200	.001950	.....	.....	
13,600	68,000	.017000	.001800	.....	.....	
14,000	70,000	.019250	.002250	.....	.....	
14,400	72,000	.020850	.001600	.....	.....	
14,800	74,000	.023000	.002150	.....	.....	
15,200	76,000	.025400	.002400	.....	.....	
15,600	78,000	.028000	.002600	.....	.....	
16,000	80,000	.030600	.002600	.....	.....	
16,400	82,000	.033550	.002950	.....	.....	
16,800	84,000	.037150	.003600	.....	.....	
17,200	86,000	.041050	.003900	.....	.....	
17,600	88,000	.045850	.004800	.....	.....	
18,000	90,000	.052000	.006150	.....	.....	
18,400	92,000	.0600	.0080	.....	.....	
18,800	94,000	.0700	.0100	.....	.....	
19,200	96,000	.0900	.0200	.....	.....	
19,600	98,000	.1200	.0300	.....	.....	
19,620	98,100	.1500	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,100
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do..	.001800
Reduction in diameter at point of rupture	do..	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		1 inch from neck
Character of broken surface		granular, 50 per centum; silky, 50 per centum
Elongation of inch sections		″.30*, ″.18

No. 2451.

Marks, $\frac{22\ T\ H_7}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	.....	.....	
8,000	40,000	.001350	.000200	.....	.....	
9,000	45,000	.001550	.000200	.....	.....	
10,000	50,000	.001700	.000150	.....	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001850	.000100	.....	.....	Elastic limit.
10,600	53,000	.006200	.004350	.....	.....	
10,800	54,000	.006750	.000550	.....	.....	
11,000	55,000	.007350	.000600	.....	.....	
11,200	56,000	.008100	.000750	.....	.....	
11,400	57,000	.008850	.000750	.....	.....	
11,600	58,000	.009650	.000800	.....	.....	
11,800	59,000	.010500	.000850	.....	.....	
12,000	60,000	.011300	.000800	.....	.....	
12,400	62,000	.013050	.001750	.....	.....	
12,800	64,000	.014650	.001600	.....	.....	
13,200	66,000	.016250	.001600	.....	.....	
13,600	68,000	.018200	.001950	.....	.....	
14,000	70,000	.020050	.001850	.....	.....	
14,400	72,000	.022250	.002200	.....	.....	
14,800	74,000	.024850	.002600	.....	.....	
15,200	76,000	.027350	.002500	.....	.....	
15,600	78,000	.029750	.002400	.....	.....	
16,000	80,000	.032550	.002800	.....	.....	
16,400	82,000	.036050	.003500	.....	.....	
16,800	84,000	.040000	.003950	.....	.....	
17,200	86,000	.043750	.003750	.....	.....	
17,600	88,000	.049000	.005250	.....	.....	
18,000	90,000	.055000	.006000	.....	.....	
18,400	92,000	.0600	.0050	.....	.....	
18,800	94,000	.0750	.0150	.....	.....	
19,200	96,000	.0900	.0150	.....	.....	
19,520	97,600	.1500	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,600
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		″.85 from neck
Character of broken surface		silky; traces of granulation
Elongation of inch sections		″.28*, ″.17

No. 2452.

Marks, $\frac{32\ T\ H_7}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001100	.000200	.....	.....	
8,000	40,000	.001250	.000150	.....	.....	
9,000	45,000	.001400	.000150	.....	.....	
10,000	50,000	.001550	.000150	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	Elastic limit.
10,400	52,000	.002000	.000400	.....	.....	
10,600	53,000	.005750	.003750	.....	.....	
10,800	54,000	.006750	.001000	.....	.....	
11,000	55,000	.007500	.000750	.....	.....	
11,200	56,000	.008150	.000650	.....	.....	
11,400	57,000	.009000	.000850	.....	.....	
11,600	58,000	.009700	.000700	.....	.....	
11,800	59,000	.010600	.000900	.....	.....	
12,000	60,000	.011300	.000700	.....	.....	
12,400	62,000	.012600	.001300	.....	.....	
12,800	64,000	.014600	.002000	.....	.....	
13,200	66,000	.016250	.001650	.....	.....	
13,600	68,000	.018100	.001850	.....	.....	
14,000	70,000	.020100	.002000	.....	.....	
14,400	72,000	.022300	.002200	.....	.....	
14,800	74,000	.024700	.002400	.....	.....	
15,200	76,000	.027100	.002400	.....	.....	
15,600	78,000	.029750	.002650	.....	.....	
16,000	80,000	.032750	.003000	.....	.....	
16,400	82,000	.036050	.003300	.....	.....	
16,800	84,000	.039800	.003750	.....	.....	
17,200	86,000	.044000	.004200	.....	.....	
17,600	88,000	.049500	.005500	.....	.....	
18,000	90,000	.055500	.006000	.....	.....	
18,400	92,000	.0650	.0095	.....	.....	
18,700	93,500	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,500
Elastic limit per square inch of original section	do..	51,000
Elongation per inch after rupture	inch..	0.0700
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		".30 inch from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".08" ".06

No. 2453.

Marks, $^{32}_{T_2}$ T H,
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000900	.000200	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001200	.000150	.....	.....	
8,000	40,000	.001400	.000200	.....	.....	
9,000	45,000	.001550	.000150	.....	.....	
10,000	50,000	.001750	.000200	.....	.....	
10,200	51,000	.001800	.000950	.....	.....	Elastic limit.
10,400	52,000	.001950	.000150	.....	.....	
10,600	53,000	.003100	.001150	.....	.....	
10,800	54,000	.006100	.003000	.....	.....	
11,000	55,000	.007000	.000900	.....	.....	
11,200	56,000	.007600	.000600	.....	.....	
11,400	57,000	.008100	.000500	.....	.....	
11,600	58,000	.008700	.000600	.....	.....	
11,800	59,000	.009550	.000850	.....	.....	
12,000	60,000	.010300	.000750	.....	.....	
12,400	62,000	.012000	.001700	.....	.....	
12,800	64,000	.013750	.001750	.....	.....	
13,200	66,000	.015500	.001750	.....	.....	
13,600	68,000	.017100	.001600	.....	.....	
14,000	70,000	.019000	.001900	.....	.....	
14,400	72,000	.021000	.002000	.....	.....	
14,800	74,000	.023000	.002000	.....	.....	
15,200	76,000	.025150	.002150	.....	.....	
15,600	78,000	.027750	.002600	.....	.....	
16,000	80,000	.030600	.002850	.....	.....	
16,400	82,000	.033500	.002900	.....	.....	
16,800	84,000	.037050	.003550	.....	.....	
17,200	86,000	.042000	.004950	.....	.....	
17,600	88,000	.046000	.004000	.....	.....	
18,000	90,000	.051300	.005300	.....	.....	
18,400	92,000	.0550	.0037	.....	.....	
18,800	94,000	.0600	.0050	.....	.....	
19,200	96,000	.0800	.0200	.....	.....	
19,600	98,000	.1000	.0200	.....	.....	
19,760	98,800	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,800
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		".70 from neck
Character of broken surface		silky
Elongation of inch sections		".16, ".31*

[Additional specimens.]

No. 2441.

Marks, $\frac{32\,T\,H_7}{T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Sucessive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000360	.000250	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001350	.000150	.....	.....	
9,000	45,000	.001550	.000200	.....	.....	
10,000	50,000	.001700	.000150	.....	.....	
11,000	55,000	.001900	.000200	.....	.....	
11,200	56,000	.001950	.000050	.....	.....	
11,400	57,000	.001950	0.	.....	.....	
11,600	58,000	.002000	.000050	.....	.....	
11,800	59,000	.002050	.000050	.....	.....	
12,000	60,000	.002100	.000050	.....	.....	Elastic limit.
12,200	61,000	.002500	.000400	.....	.....	
12,400	62,000	.003150	.000650	.....	.....	
12,600	63,000	.004150	.001000	.....	.....	
12,800	64,000	.006200	.002050	.....	.....	
13,200	66,000	.008250	.002050	.....	.....	
13,600	68,000	.010300	.002050	.....	.....	
14,000	70,000	.012500	.002200	.....	.....	
14,400	72,000	.014800	.002300	.....	.....	
14,800	74,000	.017000	.002200	.....	.....	
15,200	76,000	.019050	.002050	.....	.....	
15,600	78,000	.020950	.001900	.....	.....	
16,000	80,000	.023100	.002150	.....	.....	
16,400	82,000	.025750	.002650	.....	.....	
16,800	84,000	.029250	.003500	.....	.....	
17,200	86,000	.032000	.002750	.....	.....	
17,600	88,000	.036000	.004000	.....	.....	
18,000	90,000	.041100	.005100	.....	.....	
18,400	92,000	.0450	.0039	.....	.....	
18,800	94,000	.0500	.0050	.....	.....	
19,200	96,000	.0600	.0100	.....	.....	
19,600	98,000	.0750	.0150	.....	.....	
20,000	100,000	.1050	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,000
Elastic limit per square inch of original section	do....	60,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do....	.002100
Reduction in diameter at point of rupture	do....	.125
Reduction in area after rupture, per centum of original section	.....	42.3
Position of rupture		".65 from neck
Character of broken surface		silky
Elongation of inch sections		".20", ".12

No. 2442.

Marks, $\frac{32\ T\ H\cdot}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Appied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000100	.0 0150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001300	.000250	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
10,000	50,000	.001600	.000100	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	Elastic limit.
10,600	53,000	.004650	.002950	.....	.....	
10,800	54,000	.006850	.002200	.....	.....	
11,000	55,000	.007900	.001050	.....	.....	
11,200	56,000	.008750	.000850	.....	.....	
11,400	57,000	.009750	.001000	.....	.....	
11,600	58,000	.010500	.000750	.....	.....	
11,8 0	59,000	.011250	.000750	.....	.....	
12,000	60,000	.011750	.000500	.....	.....	
12,400	62,000	.013500	.001750	.....	.....	
12,800	64,000	.015250	.001750	.....	.....	
13,200	66,000	.017050	.001800	.....	.....	
13,600	68,000	.020500	.003450	.....	.....	
14,000	70,000	.022500	.002000	.....	.....	
14,400	72,000	.024500	.002000	.....	.....	
14,800	74,000	.027000	.002500	.....	.....	
15,200	76,000	.030000	.003000	.....	.....	
15,600	78,000	.033000	.003000	.....	.....	
16,000	80,000	.037000	.004000	.....	.....	
16,400	82,000	.042000	.005000	.....	.....	
16,800	84,000	.046500	.004500	.....	.....	
17,200	86,000	.053500	.007000	.....	.....	
17,600	88,000	.0600	.0065	.....	.....	
18,000	90,000	.0750	.0150	.....	.....	
18,400	92,000	.0900	.0150	.....	.....	
18,780	93,900	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	93,900
Elastic limit per square inch of original section	do	52,000
Elongation per inch after rupture	inch	0.2600
Elongation per inch under strain at elastic limit	do	.01700
Reduction in diameter at point of rupture	do	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".25*, ".27*

No. 2443.

Marks, $\frac{32\ T\ H,}{T_6}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000250	.000150	0.		
3,000	15,000	.000400	.000150	0.		
4,000	20,000	.000650	.000250	0.		
5,000	25,000	.000850	.000200	0.		
6,000	30,000	.000950	.000100	0.		
7,000	35,000	.001100	.000150	0.		
8,000	40,000	.001300	.000200	0.		
9,000	45,000	.001450	.000150	0.		
10,000	50,000	.001600	.000150	0.		
10,200	51,000	.001600	0.			
10,400	52,000	.001650	.000050			
10,600	53,000	.001700	.000050			
10,800	54,000	.001750	.000050			
11,000	55,000	.001750	0.			Elastic limit.
11,200	56,000	.005000	.003250			
11,400	57,000	.007100	.002100			
11,600	58,000	.008000	.000900			
11,800	59,000	.008750	.000750			
12,000	60,000	.009700	.000950			
12,400	62,000	.011350	.001650			
12,800	64,000	.013000	.001650			
13,200	66,000	.014650	.001650			
13,600	68,000	.016500	.001850			
14,000	70,000	.018750	.002250			
14,400	72,000	.021000	.002250			
14,800	74,000	.023500	.002500			
15,200	76,000	.025600	.002100			
15,600	78,000	.028500	.002900			
16,000	80,000	.032000	.003500			
16,400	82,000	.036500	.004500			
16,800	84,000	.040000	.003500			
17,200	86,000	.043750	.003750			
17,600	88,000	.050000	.006250			
18,000	90,000	.0550	.0050			
18,400	92,000	.0650	.0100			
18,800	94,000	.0850	.0200			
19,200	96,000	.1050	.0200			
19,280	96,400	.1550	.0500			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,400
Elastic limit per square inch of original section	do....	55,000
Elongation per inch after rupture	inch..	0.2450
Elongation per inch under strain at elastic limit	do....	.001750
Reduction in diameter at point of rupture	do....	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.34, ″.15

No. 2454.

Marks, $\frac{32\ T\ H_3}{T_1}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000850	.000250	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	.....	.....	
8,000	40,000	.001350	.000200	.....	.....	
9,000	45,000	.001500	.000150	.....	.....	
10,000	50,000	.001650	.000150	.....	.....	
10,200	51,000	.001750	.000100	.....	.....	
10,400	52,000	.001850	.000100	.....	.....	
10,600	53,000	.001900	.000050	.....	.....	Elastic limit.
10,800	54,000	.006100	.004200	.....	.....	
11,000	55,000	.007450	.001350	.....	.....	
11,200	56,000	.008250	.000800	.....	.....	
11,400	57,000	.008700	.000450	.....	.....	
11,600	58,000	.009300	.000600	.....	.....	
11,800	59,000	.010150	.000850	.....	.....	
12,000	60,000	.010900	.000750	.....	.....	
12,400	62,000	.012400	.001500	.....	.....	
12,800	64,000	.014050	.001650	.....	.....	
13,200	66,000	.015750	.001700	.....	.....	
13,600	68,000	.017500	.001750	.....	.....	
14,000	70,000	.019550	.002050	.....	.....	
14,400	72,000	.022000	.002450	.....	.....	
14,800	74,000	.024000	.002000	.....	.....	
15,200	76,000	.026700	.002700	.....	.....	
15,600	78,000	.029750	.003050	.....	.....	
16,000	80,000	.032250	.002500	.....	.....	
16,400	82,000	.035600	.003350	.....	.....	
16,800	84,000	.039500	.003900	.....	.....	
17,200	86,000	.044000	.004500	.....	.....	
17,600	88,000	.049000	.005000	.....	.....	
18,000	90,000	.054500	.005500	.....	.....	
18,400	92,000	.0600	.0055	.....	.....	
18,800	94,000	.0700	.0100	.....	.....	
19,200	96,000	.0900	.0200	.....	.....	
19,500	97,500	.1300	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	97,500
Elastic limit per square inch of original section	do	53,000
Elongation per inch after rupture	inch	0.2300
Elongation per inch under strain at elastic limit	do	.001900
Reduction in diameter at point of rupture	do	.124
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.31*, ″.15

No. 2455.

Marks, $\frac{32\ T\ H_3}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	.....	.....	
8,000	40,000	.001250	.000150	.....	.....	
9,000	45,000	.001400	.000150	.....	.....	
10,000	50,000	.001550	.000150	.....	.....	
10,200	51,000	.001550	0.	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	Elastic limit.
10,600	53,000	.004100	.002500	.....	.....	
10,800	54,000	.005500	.001400	.....	.....	
11,000	55,000	.007000	.001500	.....	.....	
11,200	56,000	.007750	.000750	.....	.....	
11,400	57,000	.008250	.000500	.....	.....	
11,600	58,000	.009250	.001000	.....	.....	
11,800	59,000	.010250	.001000	.....	.....	
12,000	60,000	.011000	.000750	.....	.....	
12,400	62,000	.012400	.001400	.....	.....	
12,800	64,000	.014050	.001650	.....	.....	
13,200	66,000	.015800	.001750	.....	.....	
13,600	68,000	.017500	.001750	.....	.....	
14,000	70,000	.020000	.002500	.....	.....	
14,400	72,000	.022250	.002250	.....	.....	
14,800	74,000	.024500	.002250	.....	.....	
15,200	76,000	.026750	.002250	.....	.....	
15,600	78,000	.029250	.002500	.....	.....	
16,000	80,000	.032000	.002750	.....	.....	
16,400	82,000	.035650	.003650	.....	.....	
16,800	84,000	.039500	.003850	.....	.....	
17,200	86,000	.044750	.005250	.....	.....	
17,600	88,000	.050000	.005250	.....	.....	
18,000	90,000	.0550	.0050	.....	.....	
18,400	92,000	.0600	.0050	.....	.....	
18,800	94,000	.0700	.0100	.....	.....	
19,200	96,000	.0950	.0250	.....	.....	
19,390	96,950	.1250	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,950
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1200
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do ..	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		¾ inch from neck
Character of broken surface		silky; traces of granulation
Elongation of inch sections		″.27, ″.11

No. 2456.

Marks, $^{32\ T\ H_8}_{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000450	.000250	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001150	.000200	.....	.....	
8,000	40,000	.001300	.000150	.....	.....	
9,000	45,000	.001450	.000150	.....	.....	
10,000	50,000	.001650	.000200	.....	.....	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	Elastic limit.
10,600	53,000	.003750	.002050	.....	.....	
10,800	54,000	.006000	.002250	.....	.....	
11,000	55,000	.007000	.001000	.....	.....	
11,200	56,000	.007650	.000650	.....	.....	
11,400	57,000	.008500	.000950	.....	.....	
11,600	58,000	.009250	.000750	.....	.....	
11,800	59,000	.010000	.000750	.....	.....	
12,000	60,000	.010750	.000750	.....	.....	
12,400	62,000	.012500	.001750	.....	.....	
12,800	64,000	.014150	.001650	.....	.....	
13,200	66,000	.015600	.001450	.....	.....	
13,600	68,000	.017550	.001950	.....	.....	
14,000	70,000	.019750	.002200	.....	.....	
14,400	72,000	.022100	.002350	.....	.....	
14,800	74,000	.024500	.002400	.....	.....	
15,200	76,000	.026550	.002050	.....	.....	
15,600	78,000	.029250	.002700	.....	.....	
16,000	80,000	.032000	.002750	.....	.....	
16,400	82,000	.035500	.003500	.....	.....	
16,800	84,000	.039550	.004050	.....	.....	
17,200	86,000	.043500	.003950	.....	.....	
17,600	88,000	.048250	.004750	.....	.....	
18,000	90,000	.054500	.006250	.....	.....	
18,400	92,000	.0650	.0105	.....	.....	
18,800	94,000	.0750	.0100	.....	.....	
19,200	96,000	.0900	.0150	.....	.....	
19,520	97,600	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,600
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		1″.15 from neck
Character of broken surface		silky; trace of granulation
Elongation of inch sections		″.25*, ″.20

No. 2969.

Marks, $\frac{32\ T\ H_9}{T_1}$.
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	.....	.....	
8,000	40,000	.001300	.000200	.....	.....	
9,000	45,000	.001500	.000200	.....	.....	
10,000	50,000	.001650	.000150	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001800	0.	.....	.....	Elastic limit.
11,000	55,000	.003000	.001200	.....	.....	
11,200	56,000	.003750	.000750	.....	.....	
11,400	57,000	.004450	.000700	.....	.....	
11,600	58,000	.005150	.000700	.....	.....	
11,800	59,000	.006350	.001400	.....	.....	
12,000	60,000	.007500	.000950	.....	.....	
12,400	62,000	.009150	.001650	.....	.....	
12,800	64,000	.010650	.001500	.....	.....	
13,200	66,000	.012150	.001500	.....	.....	
13,600	68,000	.014050	.001900	.....	.....	
14,000	70,000	.016250	.002200	.....	.....	
14,400	72,000	.018500	.002250	.....	.....	
14,800	74,000	.020000	.001500	.....	.....	
15,200	76,000	.022100	.002100	.....	.....	
15,600	78,000	.024600	.002500	.....	.....	
16,000	80,000	.027000	.002400	.....	.....	
16,400	82,000	.029750	.002750	.....	.....	
16,800	84,000	.032500	.002750	.....	.....	
17,200	86,000	.036000	.003500	.....	.....	
17,600	88,000	.039900	.003900	.....	.....	
18,000	90,000	.044500	.004600	.....	.....	
18,400	92,000	.050000	.0055	.....	.....	
18,800	94,000	.0550	.0050	.....	.....	
19,200	96,000	.0600	.0050	.....	.....	
19,600	98,000	.0850	.0250	.....	.....	
19,920	99,600	.1150	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,600
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".55 from neck
Character of broken surface		silky
Elongation of inch sections		".31", ".09

No. 2470

Marks, $\frac{32\ T\ H_2}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000550	.000250	0.	.....	
4,000	20,000	.000750	.000200	0.	.....	
5,000	25,000	.000850	.000100	0.	.....	
6,000	30,000	.001150	.000300	0.	.....	
7,000	35,000	.001200	.000050	.....	.....	
8,000	40,000	.001400	.000200	.....	.....	
9,000	45,000	.001550	.000150	.....	.....	
10,000	50,000	.001700	.000150	.....	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	Elastic limit.
10,600	53,000	.006550	.004750	.....	.....	
10,800	54,000	.007100	.000550	.....	.....	
11,000	55,000	.007750	.000650	.....	.....	
11,200	56,000	.008400	.000650	.....	.....	
11,400	57,000	.009150	.000750	.....	.....	
11,600	58,000	.010000	.000850	.....	.....	
11,800	59,000	.010750	.000750	.....	.....	
12,000	60,000	.011750	.001000	.....	.....	
12,400	62,000	.013000	.001250	.....	.....	
12,800	64,000	.015000	.002000	.....	.....	
13,200	66,000	.016800	.001800	.....	.....	
13,600	68,000	.018750	.001950	.....	.....	
14,000	70,000	.020650	.001900	.....	.....	
14,400	72,000	.023050	.002400	.....	.....	
14,800	74,000	.025300	.002250	.....	.....	
15,200	76,000	.028000	.002700	.....	.....	
15,600	78,000	.030600	.002600	.....	.....	
16,000	80,000	.033600	.003000	.....	.....	
16,400	82,000	.037050	.003450	.....	.....	
16,800	84,000	.040650	.003600	.....	.....	
17,200	86,000	.045600	.004950	.....	.....	
17,600	88,000	.051500	.005900	.....	.....	
18,000	90,000	.0550	.0035	.....	.....	
18,400	92,000	.0600	.0050	.....	.....	
18,800	94,000	.0800	.0200	.....	.....	
19,200	96,000	.1100	.0300	.....	.....	
19,260	96,300	.1400	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,300
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".90 from neck
Character of broken surface		silky
Elongation of inch sections		".35", ".17

No. 2471.

Marks, $\frac{32\ T\ H_2}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001150	.000200	.....	.....	
8,000	40,000	.001300	.000150	.....	.....	
9,000	45,000	.001450	.000150	.....	.....	
10,000	50,000	.001600	.000150	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	Elastic limit.
11,000	55,000	.006300	.004500	.....	.....	
11,200	56,000	.007300	.001000	.....	.....	
11,400	57,000	.008000	.000700	.....	.....	
11,600	58,000	.008700	.000700	.....	.....	
11,800	59,000	.009500	.000800	.....	.....	
12,000	60,000	.010150	.000650	.....	.....	
12,400	62,000	.011800	.001650	.....	.....	
12,800	64,000	.013800	.002000	.....	.....	
13,200	66,000	.015400	.001600	.....	.....	
13,600	68,000	.017250	.001850	.....	.....	
14,000	70,000	.019100	.001850	.....	.....	
14,400	72,000	.021100	.002000	.....	.....	
14,800	74,000	.024000	.002900	.....	.....	
15,200	76,000	.025650	.001650	.....	.....	
15,600	78,000	.028250	.002600	.....	.....	
16,000	80,000	.031500	.003250	.....	.....	
16,400	82,000	.034500	.003000	.....	.....	
16,800	84,000	.038000	.003500	.....	.....	
17,200	86,000	.043500	.005500	.....	.....	
17,600	88,000	.049000	.005500	.....	.....	
18,000	90,000	.0550	.0060	.....	.....	
18,400	92,000	.0600	.0050	.....	.....	
18,800	94,000	.0700	.0100	.....	.....	
19,200	96,000	.0900	.0200	.....	.....	
19,450	97,250	.1350	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	97,250
Elastic limit per square inch of original section	do	54,000
Elongation per inch after rupture	inch	0.2300
Elongation per inch under strain at elastic limit	do	.00180
Reduction in diameter at point of rupture	do	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".33", ".13

No. 2472.

Marks, $\frac{82\ T\ H_{10}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	.....	.....	
8,000	40,000	.001300	.000150	.....	.....	
9,000	45,000	.001450	.000150	.....	.....	
10,000	50,000	.001650	.000200	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	Elastic limit.
10,400	52,000	.002150	.000450	.....	.....	
10,800	53,000	.004000	.001850	.....	.....	
10,800	54,000	.005600	.001600	.....	.....	
11,000	55,000	.006250	.000650	.....	.....	
11,200	56,000	.007000	.000750	.....	.....	
11,400	57,000	.007600	.000600	.....	.....	
11,800	58,000	.008350	.000750	.....	.....	
11,800	59,000	.009350	.001000	.....	.....	
12,000	60,000	.010150	.000800	.....	.....	
12,400	62,000	.012000	.001850	.....	.....	
12,800	64,000	.013600	.001600	.....	.....	
13,200	66,000	.015500	.001900	.....	.....	
13,600	68,000	.017000	.001500	.....	.....	
14,000	70,000	.019250	.002250	.....	.....	
14,400	72,000	.021300	.002050	.....	.....	
14,800	74,000	.023500	.002200	.....	.....	
15,200	76,000	.026100	.002600	.....	.....	
15,600	78,000	.029000	.002900	.....	.....	
16,000	80,000	.032050	.003050	.....	.....	
16,400	82,000	.035750	.003700	.....	.....	
16,800	84,000	.039250	.003500	.....	.....	
17,200	86,000	.044800	.005550	.....	.....	
17,600	88,000	.0500	.0052	.....	.....	
18,000	90,000	.0550	.0050	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0800	.0150	.....	.....	
19,200	96,000	.1050	.0250	.....	.....	
19,300	96,500	.1300	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,500
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".60 from neck
Character of broken surface		silky
Elongation of inch sections		".30*, ".10

No. 2473.

Marks, $\frac{32\ T\ H_{18}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000400	.000250	0.	.....	
3,000	15,000	.000550	.000150	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	.....	.....	
8,000	40,000	.001350	.000150	.....	.....	
9,000	45,000	.001450	.000100	.....	.....	
9,600	48,000	.001550	.000100	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	Elastic limit.
10,000	50,000	.002650	.000150	.....	.....	
10,200	51,000	.003500	.000950	.....	.....	
10,400	52,000	.004550	.001050	.....	.....	
10,600	53,000	.006100	.001550	.....	.....	
10,800	54,000	.006750	.000650	.....	.....	
11,000	55,000	.007750	.001000	.....	.....	
11,200	56,000	.008500	.000750	.....	.....	
11,400	57,000	.009250	.000750	.....	.....	
11,600	58,000	.010000	.000750	.....	.....	
11,800	59,000	.010600	.000600	.....	.....	
12,000	60,000	.011500	.000900	.....	.....	
12,400	62,000	.013050	.001550	.....	.....	
12,800	64,000	.015000	.001950	.....	.....	
13,200	66,000	.017000	.002000	.....	.....	
13,600	68,000	.018600	.001600	.....	.....	
14,000	70,000	.021000	.002400	.....	.....	
14,400	72,000	.023500	.002500	.....	.....	
14,800	74,000	.025750	.002250	.....	.....	
15,200	76,000	.028500	.002750	.....	.....	
15,600	78,000	.031600	.003100	.....	.....	
16,000	80,000	.035000	.003400	.....	.....	
16,400	82,000	.038500	.003500	.....	.....	
16,800	84,000	.043050	.004550	.....	.....	
17,200	86,000	.050000	.006950	.....	.....	
17,600	88,000	.0550	.0050	.....	.....	
18,000	90,000	.0600	.0050	.....	.....	
18,400	92,000	.0700	.0100	.....	.....	
18,800	94,000	.0950	.0250	.....	.....	
19,040	95,200	.1450	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,200
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2200
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.185
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		".60 from neck
Character of broken surface		silky; part of surface interspersed with fine granulation
Elongation of inch sections		".29", ".15

No. 2474.

Marks, $^{32}\frac{T}{T_2}H_{10}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000850	.000250	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	.....	.....	
8,000	40,000	.001350	.000200	.....	.....	
9,000	45,000	.001500	.000200	.....	.....	
10,000	50,000	.001700	.000150	.....	.....	
10,200	51,000	.001700	0.	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001850	.000100	.....	.....	Elastic limit.
10,800	54,000	.003750	.001900	.....	.....	
11,000	55,000	.005350	.001600	.....	.....	
11,200	56,000	.006150	.000800	.....	.....	
11,400	57,000	.007050	.000900	.....	.....	
11,600	58,000	.007800	.000750	.....	.....	
11,800	59,000	.008600	.000800	.....	.....	
12,000	60,000	.009600	.001000	.....	.....	
12,400	62,000	.011300	.001700	.....	.....	
12,800	64,000	.013050	.001750	.....	.....	
13,200	66,000	.014750	.001700	.....	.....	
13,600	68,000	.016750	.002000	.....	.....	
14,000	70,000	.018500	.001750	.....	.....	
14,400	72,000	.020600	.002100	.....	.....	
14,800	74,000	.022750	.002150	.....	.....	
15,200	76,000	.025500	.002750	.....	.....	
15,600	78,000	.028100	.002600	.....	.....	
16,000	80,000	.031550	.003450	.....	.....	
16,400	82,000	.035600	.004050	.....	.....	
16,800	84,000	.038500	.002900	.....	.....	
17,200	86,000	.043100	.004600	.....	.....	
17,600	88,000	.048750	.005650	.....	.....	
18,000	90,000	.0550	.006250	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0800	.0150	.....	.....	
19,200	96,000	.1050	.0250	.....	.....	
19,300	96,500	.1400	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,500
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.95 from neck
Character of broken surface		silky
Elongation of inch sections		″.33*, ″.17

No. 2380.

Marks, $\frac{32\ T\ H_{11}}{T}$.
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000650	.000100	0.	.....	
6,000	30,000	.000850	.000200	0.	.....	
7,000	35,000	.001050	.000200	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001350	.000150	.....	.....	
10,000	50,000	.001550	.000200	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	Elastic limit.
10,400	52,000	.001800	.000200	.....	.....	
10,600	53,000	.003750	.001950	.....	.....	
10,800	54,000	.005250	.001500	.....	.....	
11,000	55,000	.005750	.000500	.....	.....	
11,200	56,000	.006500	.000750	.....	.....	
11,400	57,000	.007350	.000850	.....	.....	
11,600	58,000	.008150	.000800	.....	.....	
11,800	59,000	.009000	.000850	.....	.....	
12,000	60,000	.009900	.000900	.....	.....	
12,400	62,000	.011550	.001650	.....	.....	
12,800	64,000	.013500	.001950	.....	.....	
13,200	66,000	.015600	.002100	.....	.....	
13,600	68,000	.017000	.001400	.....	.....	
14,000	70,000	.018500	.001500	.....	.....	
14,400	72,000	.021500	.003000	.....	.....	
14,800	74,000	.024000	.002500	.....	.....	
15,200	76,000	.027000	.003000	.....	.....	
15,600	78,000	.029250	.002250	.....	.....	
16,000	80,000	.032100	.002850	.....	.....	
16,400	82,000	.036250	.004150	.....	.....	
16,800	84,000	.040150	.003900	.....	.....	
17,200	86,000	.045000	.004850	.....	.....	
17,600	88,000	.050000	.005000	.....	.....	
18,000	90,000	.0600	.0100	.....	.....	
18,400	92,000	.0650	.0050	.....	.....	
18,800	94,000	.0900	.0250	.....	.....	
19,100	95,500	.1200	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	95,500
Elastic limit per square inch of original section	do	51,000
Elongation per inch after rupture	inch	0.1200
Elongation per inch under strain at elastic limit	do	.001600
Reduction in diameter at point of rupture	do	.115
Reduction in area after rupture, per centum of original section		44.1
Position of rupture		″.95 from neck
Character of broken surface	granular, 50 per centum; silky, 50 per centum	
Elongation of inch sections		″.12, ″.23

No. 2381.

Marks, $\frac{32\ T\ H_{11}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001200	.000200	.....	.....	
8,000	40,000	.001350	.000150	.....	.....	
9,000	45,000	.001550	.000200	.....	.....	
10,000	50,000	.001750	.000200	.....	.....	
10,200	51,000	.001800	.000050	.....	.....	
10,400	52,000	.001800	0.	.....	.....	Elastic limit.
10,600	53,000	.002550	.000750	.....	.....	
10,800	54,000	.003500	.000950	.....	.....	
11,000	55,000	.004650	.001150	.....	.....	
11,200	56,000	.005550	.000900	.....	.....	
11,400	57,000	.006300	.000750	.....	.....	
11,600	58,000	.006800	.000500	.....	.....	
11,800	59,000	.008050	.001250	.....	.....	
12,000	60,000	.009050	.001000	.....	.....	
12,400	62,000	.010800	.001750	.....	.....	
12,800	64,000	.012050	.001250	.....	.....	
13,200	66,000	.014550	.002500	.....	.....	
13,600	68,000	.016500	.001950	.....	.....	
14,000	70,000	.018200	.001700	.....	.....	
14,400	72,000	.020600	.002400	.....	.....	
14,800	74,000	.023000	.002400	.....	.....	
15,200	76,000	.025750	.002750	.....	.....	
15,600	78,000	.028400	.002650	.....	.....	
16,000	80,000	.031400	.003000	.....	.....	
16,400	82,000	.035000	.003600	.....	.....	
16,800	84,000	.038750	.003750	.....	.....	
17,200	86,000	.043500	.004750	.....	.....	
17,600	88,000	.048500	.005000	.....	.....	
18,000	90,000	.054750	.006250	.....	.....	
18,400	92,000	.0650	.010250	.....	.....	
18,800	94,000	.0800	.0150	.....	.....	
19,200	96,000	.1050	.0250	.....	.....	
19,300	96,500	.1400	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,500
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.8
Position of rupture		″.80 from neck
Character of broken surface	silky, 60 per centum; granular, 40 per centum	
Elongation of inch sections		″.13, ″.20

No. 2382.

Marks, $\frac{32\ T\ H_{11}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000800	.000250	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	.....	.....	
8,000	40,000	.001300	.000200	.....	.....	
9,000	45,000	.001500	.000200	.....	.....	
9,600	48,000	.001650	.000150	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	
10,000	50,000	.001800	.000100	.....	.....	Elastic limit.
10,200	51,000	.002750	.000950	.....	.....	
10,400	52,000	.004600	.001850	.....	.....	
10,600	53,000	.005000	.001000	.....	.....	
10,800	54,000	.006100	.000500	.....	.....	
11,000	55,000	.007100	.001000	.....	.....	
11,200	56,000	.008050	.000950	.....	.....	
11,400	57,000	.008900	.000850	.....	.....	
11,600	58,000	.009650	.000750	.....	.....	
11,800	59,000	.010350	.000700	.....	.....	
12,000	60,000	.011250	.000900	.....	.....	
12,400	62,000	.013050	.001800	.....	.....	
12,800	64,000	.015250	.002200	.....	.....	
13,200	66,000	.017000	.001750	.....	.....	
13,600	68,000	.019350	.002350	.....	.....	
14,000	70,000	.022000	.002750	.....	.....	
14,400	72,000	.024250	.002250	.....	.....	
14,800	74,000	.026100	.001850	.....	.....	
15,200	76,000	.028750	.002650	.....	.....	
15,600	78,000	.032050	.003300	.....	.....	
16,000	80,000	.035500	.003450	.....	.....	
16,400	82,000	.040000	.004500	.....	.....	
16,800	84,000	.045000	.005000	.....	.....	
17,200	86,000	.051700	.006700	.....	.....	
17,600	88,000	.0600	.0083	.....	.....	
18,000	90,000	.0700	.0100	.....	.....	
18,400	92,000	.0900	.0200	.....	.....	
18,800	94,000	.1150	.0250	.....	.....	
18,920	94,600	.1550	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,600
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.2200
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		46.3
Position of rupture		§ inch from neck; oblique
Character of broken surface		silky
Elongation of inch sections		″.30, ″.16

No. 2386.

Marks, $\frac{32\ T\ H_{12}}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001400	.000200	.....	.....	
10,000	50,000	.001650	.000250	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	Elastic limit.
10,400	52,000	.003250	.001550	.....	.....	
10,600	53,000	.005600	.002350	.....	.....	
10,800	54,000	.006000	.000400	.....	.....	
11,000	55,000	.006600	.000600	.....	.....	
11,200	56,000	.007350	.000750	.....	.....	
11,400	57,000	.008250	.000900	.....	.....	
11,600	58,000	.008900	.000650	.....	.....	
11,800	59,000	.009700	.000800	.....	.....	
12,000	60,000	.010600	.000900	.....	.....	
12,400	62,000	.012100	.001500	.....	.....	
12,800	64,000	.014050	.001950	.....	.....	
13,200	66,000	.015750	.001700	.....	.....	
13,600	68,000	.017500	.001750	.....	.....	
14,000	70,000	.020000	.002500	.....	.....	
14,400	72,000	.022000	.002000	.....	.....	
14,800	74,000	.024500	.002500	.....	.....	
15,200	76,000	.026600	.002100	.....	.....	
15,600	78,000	.030150	.003550	.....	.....	
16,000	80,000	.032900	.002750	.....	.....	
16,400	82,000	.036000	.003100	.....	.....	
16,800	84,000	.041000	.005000	.....	.....	
17,200	86,000	.046500	.005500	.....	.....	
17,600	88,000	.0500	.0035	.....	.....	
18,000	90,000	.0550	.0050	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,880	94,000	.0850	.0200	.....	.....	
19,160	95,800	.1350	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,800
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		″.65 from neck
Character of broken surface		silky
Elongation of inch sections		″.32*, ″.11

No. 2387.

Marks, $\frac{32\ T\ H_{12}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000900	.000250	0.	.....	
7,000	35,000	.001050	.000150	.....	.....	
8,000	40,000	.001300	.000250	.....	.....	
9,000	45,000	.001450	.000150	.....	.....	
10,000	50,000	.001600	.000150	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	Elastic limit.
10,400	52,000	.001800	.000150	.....	.....	
10,600	53,000	.002500	.000700	.....	.....	
10,800	54,000	.004250	.001750	.....	.....	
11,000	55,000	.004900	.000650	.....	.....	
11,200	56,000	.006000	.001100	.....	.....	
11,400	57,000	.007500	.001500	.....	.....	
11,600	58,000	.008250	.000750	.....	.....	
11,800	59,000	.009000	.000750	.....	.....	
12,000	60,000	.010400	.001400	.....	.....	
12,400	62,000	.011850	.001450	.....	.....	
12,800	64,000	.013000	.001150	.....	.....	
13,200	66,000	.014750	.001750	.....	.....	
13,600	68,000	.016750	.002000	.....	.....	
14,000	70,000	.018750	.002000	.....	.....	
14,400	72,000	.021050	.002300	.....	.....	
14,800	74,000	.022750	.001700	.....	.....	
15,200	76,000	.025250	.002500	.....	.....	
15,600	78,000	.028000	.002750	.....	.....	
16,000	80,000	.030600	.002600	.....	.....	
16,400	82,000	.033500	.002900	.....	.....	
16,800	84,000	.037500	.004000	.....	.....	
17,200	86,000	.041500	.004000	.....	.....	
17,600	88,000	.046750	.005250	.....	.....	
18,000	90,000	.052500	.005750	.....	.....	
18,400	92,000	.0600	.0075	.....	.....	
18,800	94,000	.0850	.0250	.....	.....	
19,200	96,000	.0900	.0250	.....	.....	
19,550	97,750	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	97,750
Elastic limit per square inch of original section	do	51,000
Elongation per inch after rupture	inch	0.2200
Elongation per inch under strain at elastic limit	do	.001650
Reduction in diameter at point of rupture	do	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		".70 from neck
Character of broken surface	silky, 50 per centum; granular, 50 per centum	
Elongation of inch sections		".30", ".14

No. 2388.

Marks, $\frac{22\ T\ H_{12}}{T_2}$
Diameter, $''.505$.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	.....	.....	
8,000	40,000	.001450	.000250	.....	.....	
9,000	45,000	.001650	.000200	.....	.....	
9,200	46,000	.001700	.000050	.....	.....	
9,400	47,000	.001750	.000050	.....	.....	
9,600	48,000	.001800	.000050	.....	.....	
9,800	49,000	.001850	.000050	.....	.....	Elastic limit.
10,000	50,000	.002150	.000300	.....	.....	
10,200	51,000	.003450	.001300	.....	.....	
10,400	52,000	.005250	.001800	.....	.....	
10,600	53,000	.006500	.001250	.....	.....	
10,800	54,000	.007250	.000750	.....	.....	
11,000	55,000	.007950	.000700	.....	.....	
11,200	56,000	.008550	.000600	.....	.....	
11,400	57,000	.009300	.000750	.....	.....	
11,600	58,000	.010000	.000700	.....	.....	
11,800	59,000	.011000	.001000	.....	.....	
12,000	60,000	.011750	.000750	.....	.....	
12,400	62,000	.013750	.002000	.....	.....	
12,800	64,000	.015600	.001850	.....	.....	
13,200	66,000	.017550	.001950	.....	.....	
13,600	68,000	.020000	.002450	.....	.....	
14,000	70,000	.021650	.001650	.....	.....	
14,400	72,000	.024250	.002600	.....	.....	
14,800	74,000	.026500	.002250	.....	.....	
15,200	76,000	.029100	.002600	.....	.....	
15,600	78,000	.032150	.003050	.....	.....	
16,000	80,000	.038100	.005950	.....	.....	
16,400	82,000	.039750	.001650	.....	.....	
16,800	84,000	.044250	.004500	.....	.....	
17,200	86,000	.050000	.005750	.....	.....	
17,600	88,000	.0550	.0050	.....	.....	
18,000	90,000	.0600	.0050	.....	.....	
18,400	92,000	.0800	.0200	.....	.....	
18,800	94,000	.1050	.0250	.....	.....	
18,920	94,600	.1400	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,600
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.695
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		1 inch from neck
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		".24", ".14

No. 2288.

Marks, $\frac{32\ T\ H_{12}}{T_{//}}$
Diameter, //.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	
10,200	51,000	.001650	.000100	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	Elastic limit.
10,600	53,000	.001850	.000150	.....	.....	
10,800	54,000	.003750	.001900	.....	.....	
11,000	55,000	.004750	.001000	.....	.....	
11,200	56,000	.005500	.000750	.....	.....	
11,400	57,000	.006350	.000850	.....	.....	
11,600	58,000	.007250	.000900	.....	.....	
11,800	59,000	.007900	.000650	.....	.....	
12,000	60,000	.008900	.001000	.....	.....	
12,400	62,000	.010600	.001700	.....	.....	
12,800	64,000	.012250	.001650	.....	.....	
13,200	66,000	.014000	.001750	.....	.....	
13,600	68,000	.015600	.001600	.....	.....	
14,000	70,000	.017400	.001800	.....	.....	
14,400	72,000	.019500	.002100	.....	.....	
14,800	74,000	.021750	.002250	.....	.....	
15,200	76,000	.024000	.002250	.....	.....	
15,600	78,000	.026750	.002750	.....	.....	
16,000	80,000	.029750	.003000	.....	.....	
16,400	82,000	.032250	.002500	.....	.....	
16,800	84,000	.036000	.003750	.....	.....	
17,200	86,000	.038750	.002750	.....	.....	
17,600	88,000	.044000	.005250	.....	.....	
18,000	90,000	.049000	.005000	.....	.....	
18,400	92,000	.055750	.006750	.....	.....	
18,800	94,000	.0650	.009250	.....	.....	
19,200	96,000	.0800	.0150	.....	.....	
19,600	98,000	.1050	.0250	.....	.....	
19,720	98,600	.1400	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,600
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1400
Elongation per inch under strain at elastic limit	do ..	.001700
Reduction in diameter at point of rupture	do...	.035
Reduction in area after rupture, per centum of original section		13.2
Position of rupture		".92 from neck
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		".16*, ".12

No. 2289.

Marks, $\frac{32\ T\ H_{12}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001500	.000150	0.	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	
9,600	48,000	.001600	0.	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	Elastic limit.
10,000	50,000	.001850	.000200	.....	.....	
10,200	51,000	.003900	.002050	.....	.....	
10,400	52,000	.004650	.000750	.....	.....	
10,600	53,000	.005250	.000600	.....	.....	
10,800	54,000	.006300	.001050	.....	.....	
11,000	55,000	.006900	.000600	.....	.....	
11,200	56,000	.007850	.000950	.....	.....	
11,400	57,000	.008600	.000750	.....	.....	
11,600	58,000	.009400	.000800	.....	.....	
11,800	59,000	.010250	.000850	.....	.....	
12,000	60,000	.011250	.001000	.....	.....	
12,400	62,000	.012850	.001600	.....	.....	
12,800	64,000	.014900	.002050	.....	.....	
13,200	66,000	.016500	.001900	.....	.....	
13,600	68,000	.018500	.002000	.....	.....	
14,000	70,000	.020500	.002000	.....	.....	
14,400	72,000	.022800	.002300	.....	.....	
14,800	74,000	.026000	.003200	.....	.....	
15,200	76,000	.029000	.003000	.....	.....	
15,600	78,000	.031750	.002750	.....	.....	
16,000	80,000	.035000	.003250	.....	.....	
16,400	82,000	.039000	.004000	.....	.....	
16,800	84,000	.043750	.004750	.....	.....	
17,200	86,000	.048000	.004250	.....	.....	
17,600	88,000	.055000	.007000	.....	.....	
18,000	90,000	.0700	.0150	.....	.....	
18,400	92,000	.0900	.0200	.....	.....	
18,800	94,000	.1050	.0150	.....	.....	
18,950	94,750	.1450	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,750
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		".05 from middle of stem
Character of broken surface...granular; dull spot at circumference; opened cracks in surface of stem		
Elongation of inch sections		".25*,".16

No. 2290.

Marks, $\frac{32\ T\ H_{12}}{T_3}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000900	.000100	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001400	.000150	0.	.....	
10,000	50,000	.001650	.000250	0.	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	Elastic limit.
10,600	53,000	.002650	.000900	.....	.....	
10,800	54,000	.004300	.001650	.....	.....	
11,000	55,000	.005100	.000800	.....	.....	
11,200	56,000	.006100	.001000	.....	.....	
11,400	57,000	.006900	.000800	.....	.....	
11,600	58,000	.008000	.001100	.....	.....	
11,800	59,000	.008900	.000900	.....	.....	
12,000	60,000	.009500	.000600	.....	.....	
12,400	62,000	.010750	.001250	.....	.....	
12,800	64,000	.012250	.001500	.....	.....	
13,200	66,000	.014000	.001750	.....	.....	
13,600	68,000	.015850	.001850	.....	.....	
14,000	70,000	.018200	.002350	.....	.....	
14,400	72,000	.020000	.001800	.....	.....	
14,800	74,000	.022000	.002000	.....	.....	
15,200	76,000	.024000	.002000	.....	.....	
15,600	78,000	.027000	.003000	.....	.....	
16,000	80,000	.029750	.002750	.....	.....	
16,400	82,000	.032750	.003000	.....	.....	
16,800	84,000	.036000	.003250	.....	.....	
17,200	86,000	.040000	.004000	.....	.....	
17,600	88,000	.044750	.004750	.....	.....	
18,000	90,000	.050250	.005500	.....	.....	
18,400	92,000	.0600	.001750	.....	.....	
18,800	94,000	.0650	.0050	.....	.....	
19,200	96,000	.0850	.0200	.....	.....	
19,600	98,000	.1100	.0250	.....	.....	
19,620	98,100	.1400	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,100
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		".80 from neck
Character of broken surface	granular, 60 per centum; dull silky, 40 per centum	
Elongation of inch sections		".20*, ".15

No. 2291.

Marks, $\frac{33\ T\ H_{14}}{T_1}$
Diameter, $\frac{11}{20}$".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000300	.000200	0.		
3,000	15,000	.000500	.000200	0.		
4,000	20,000	.000600	.000100	0.		
5,000	25,000	.000800	.000200	0.		
6,000	30,000	.000950	.000150	0.		
7,000	35,000	.001150	.000200	0.		
8,000	40,000	.001300	.000150	0.		
9,000	45,000	.001450	.000150	0.		
10,000	50,000	.001700	.000250	0.		Elastic limit.
10,200	51,000	.001950	.000250			
10,400	52,000	.002400	.000450			
10,600	53,000	.003500	.001100			
10,800	54,000	.004250	.000750			
11,000	55,000	.005000	.000750			
11,200	56,000	.006000	.001000			
11,400	57,000	.006900	.000900			
11,600	58,000	.007750	.000850			
11,800	59,000	.008400	.000650			
12,000	60,000	.009000	.000600			
12,400	62,000	.010700	.001700			
12,800	64,000	.012250	.001550			
13,200	66,000	.014050	.001800			
13,600	68,000	.016000	.001950			
14,000	70,000	.017750	.001750			
14,400	72,000	.019600	.001850			
14,800	74,000	.022250	.002650			
15,200	76,000	.024500	.002250			
15,600	78,000	.027000	.002500			
16,000	80,000	.029750	.002750			
16,400	82,000	.032350	.002600			
16,800	84,000	.035750	.003400			
17,200	86,000	.039250	.003500			
17,600	88,000	.044000	.004750			
18,000	90,000	.049500	.005500			
18,400	92,000	.056000	.006500			
18,800	94,000	.0700	.0140			
19,200	96,000	.0850	.0150			
19,600	98,000	.1150	.0300			
19,610	98,050	.1300	.0150			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,050
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		½ inch from neck
Character of broken surface		granular, 60 per centum; dull, silky center, 40 per centum
Elongation of inch sections		".26", ".12

No. 2292.

Marks, $\frac{32\,T\,H_{14}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001450	.000250	.000050	.000050	
9,000	45,000	.001650	.000200	.000050	0.	
10,000	50,000	.001800	.000150	.000050	0.	
10,200	51,000	.001850	.000050	.....	.....	Elastic limit.
10,400	52,000	.002050	.000200	.....	.....	
10,600	53,000	.002750	.000700	.....	.....	
10,800	54,000	.003750	.001000	.....	.....	
11,000	55,000	.004350	.000600	.....	.....	
11,200	56,000	.005250	.000900	.....	.....	
11,400	57,000	.006200	.000950	.....	.....	
11,600	58,000	.006850	.000650	.....	.....	
11,800	59,000	.007500	.000650	.....	.....	
12,000	60,000	.008500	.001000	.....	.....	
12,400	62,000	.010000	.001500	.....	.....	
12,800	64,000	.011850	.001850	.....	.....	
13,200	66,000	.013000	.001150	.....	.....	
13,600	68,000	.015000	.002000	.....	.....	
14,000	70,000	.016700	.001700	.....	.....	
14,400	72,000	.018400	.001700	.....	.....	
14,800	74,000	.020300	.001900	.....	.....	
15,200	76,000	.022100	.001800	.....	.....	
15,600	78,000	.024600	.002500	.....	.....	
16,000	80,000	.027050	.002450	.....	.....	
16,400	82,000	.029500	.002450	.....	.....	
16,800	84,000	.032500	.003000	.....	.....	
17,200	86,000	.036250	.003750	.....	.....	
17,600	88,000	.040000	.003750	.....	.....	
18,000	90,000	.044000	.004000	.....	.....	
18,400	92,000	.049750	.005750	.....	.....	
18,800	94,000	.056000	.006250	.....	.....	
19,200	96,000	.0700	.0140	.....	.....	
19,600	98,000	.0900	.0200	.....	.....	
20,000	100,000	.1100	.0200	.....	.....	
20,020	100,100	.1300	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,100
Elastic limit per square inch of original section	do ..	51,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		1″.65 from neck
Character of broken surface		granular; small dull spot at circumference
Elongation of inch sections		″.23*, ″.17

No. 2293.

Marks, $\frac{32\ T\ H_{14}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
10,000	50,000	.001750	.000250	.000050	.000050	
10,200	51,000	.001800	.000050	.....	.....	Elastic limit.
10,400	52,000	.002250	.000450	.....	.....	
10,800	54,000	.004000	.001750	.....	.....	
11,000	55,000	.004450	.000450	.....	.....	
11,200	56,000	.005250	.000800	.....	.....	
11,400	57,000	.006150	.000900	.....	.....	
11,600	58,000	.007050	.000900	.....	.....	
11,800	59,000	.007650	.000600	.....	.....	
12,000	60,000	.008350	.000750	.....	.....	
12,400	62,000	.010050	.001700	.....	.....	
12,800	64,000	.011500	.001450	.....	.....	
13,200	66,000	.013250	.001750	.....	.....	
13,600	68,000	.015250	.002000	.....	.....	
14,000	70,000	.016750	.001500	.....	.....	
14,400	72,000	.018750	.002000	.....	.....	
14,800	74,000	.020750	.002000	.....	.....	
15,200	76,000	.022550	.001800	.....	.....	
15,600	78,000	.025100	.002550	.....	.....	
16,000	80,000	.028400	.003300	.....	.....	
16,400	82,000	.030350	.001950	.....	.....	
16,800	84,000	.034250	.003900	.....	.....	
17,200	86,000	.037700	.003450	.....	.....	
17,600	88,000	.042100	.004400	.....	.....	
18,000	90,000	.047550	.005450	.....	.....	
18,400	92,000	.054000	.006450	.....	.....	
18,800	94,000	.0600	.0060	.....	.....	
19,200	96,000	.0700	.0100	.....	.....	
19,600	98,000	.1050	.0350	.....	.....	
19,680	98,400	.1250	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,400
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1550
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		″.70 from neck
Character of broken surface		granular
Elongation of inch sections		″.21*, ″.10

No. 2383.

Marks, $\frac{32\ TH_{12}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	.....	.....	
8,000	40,000	.001300	.000150	.....	.....	
9,000	45,000	.001450	.000150	.....	.....	
10,000	50,000	.001600	.000150	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	Elastic limit.
10,400	52,000	.001900	.000250	.....	.....	
10,600	53,000	.003850	.001950	.....	.....	
10,800	54,000	.005000	.001150	.....	.....	
11,000	55,000	.005750	.000750	.....	.....	
11,200	56,000	.006550	.000800	.....	.....	
11,400	57,000	.007400	.000850	.....	.....	
11,600	58,000	.008200	.000800	.....	.....	
11,800	59,000	.009000	.000800	.....	.....	
12,000	60,000	.009750	.000750	.....	.....	
12,400	62,000	.011550	.001800	.....	.....	
12,800	64,000	.013400	.001850	.....	.....	
13,200	66,000	.014900	.001500	.....	.....	
13,600	68,000	.016750	.001850	.....	.....	
14,000	70,000	.018550	.001800	.....	.....	
14,400	72,000	.021000	.002450	.....	.....	
14,800	74,000	.023250	.002250	.....	.....	
15,200	76,000	.025750	.002500	.....	.....	
15,600	78,000	.028250	.002500	.....	.....	
16,000	80,000	.031250	.003000	.....	.....	
16,400	82,000	.034500	.003250	.....	.....	
16,800	84,000	.038250	.003750	.....	.....	
17,200	86,000	.042500	.004250	.....	.....	
17,600	88,000	.048500	.006000	.....	.....	
18,000	90,000	.054000	.005500	.....	.....	
18,400	92,000	.0650	.0110	.....	.....	
18,800	94,000	.0800	.0150	.....	.....	
19,200	96,000	.1050	.0250	.....	.....	
19,250	96,250	.1300	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	96,250
Elastic limit per square inch of original section	do	51,000
Elongation per inch after rupture	inch	0.2900
Elongation per inch under strain at elastic limit	do	.001650
Reduction in diameter at point of rupture	do	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		1".10 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".25", ".15

No. 2384.

Marks, $\frac{88\ T\ H_{15}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001150	.000200	.....	.....	
8,000	40,000	.001300	.000150	.....	.....	
9,000	45,000	.001500	.000200	.....	.....	
10,000	50,000	.001750	.000150	.....	.....	Elastic limit.
10,200	51,000	.004000	.002250	.....	.....	
10,400	52,000	.005000	.001000	.....	.....	
10,600	53,000	.005900	.000900	.....	.....	
10,800	54,000	.006650	.000750	.....	.....	
11,000	55,000	.007250	.000600	.....	.....	
11,200	56,000	.008100	.000850	.....	.....	
11,400	57,000	.008750	.000650	.....	.....	
11,600	58,000	.009750	.001000	.....	.....	
11,800	59,000	.010700	.000950	.....	.....	
12,000	60,000	.011250	.000550	.....	.....	
12,400	62,000	.013000	.001750	.....	.....	
12,800	64,000	.014700	.001700	.....	.....	
13,200	66,000	.016250	.001550	.....	.....	
13,600	68,000	.018600	.002350	.....	.....	
14,000	70,000	.021000	.002400	.....	.....	
14,400	72,000	.022650	.001650	.....	.....	
14,800	74,000	.025000	.002350	.....	.....	
15,200	76,000	.027750	.002750	.....	.....	
15,600	78,000	.030300	.002650	.....	.....	
16,000	80,000	.034050	.003750	.....	.....	
16,400	82,000	.037800	.003750	.....	.....	
16,800	84,000	.042250	.004450	.....	.....	
17,200	86,000	.046750	.004500	.....	.....	
17,600	88,000	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,000
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.0550
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.015
Reduction in area after rupture, per centum of original section		5.7
Position of rupture		½ inch from neck
Character of broken surface		granular
Elongation of inch sections		".07", ".04

No. 2385.

Marks, $\frac{32\,T\,H_{15}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001200	.000200	.....	.....	
8,000	40,000	.001350	.000150	.....	.....	
9,000	45,000	.001550	.000200	.....	.....	
9,600	48,000	.001700	.000150	.....	.....	
9,800	49,000	.001750	.000050	.....	.....	Elastic limit.
10,000	50,000	.002500	.000750	.....	.....	
10,200	51,000	.004500	.002000	.....	.....	
10,400	52,000	.005500	.001000	.....	.....	
10,600	53,000	.006100	.000600	.....	.....	
10,800	54,000	.006600	.000500	.....	.....	
11,000	55,000	.007300	.000700	.....	.....	
11,200	56,000	.008100	.000800	.....	.....	
11,400	57,000	.009000	.000900	.....	.....	
11,600	58,000	.010000	.001000	.....	.....	
11,800	59,000	.010700	.000700	.....	.....	
12,000	60,000	.011600	.000900	.....	.....	
12,400	62,000	.013250	.001650	.....	.....	
12,800	64,000	.015000	.001750	.....	.....	
13,200	66,000	.016750	.001750	.....	.....	
13,600	68,000	.019000	.002250	.....	.....	
14,000	70,000	.021000	.002000	.....	.....	
14,400	72,000	.023100	.002100	.....	.....	
14,800	74,000	.025750	.002650	.....	.....	
15,200	76,000	.028250	.002500	.....	.....	
15,600	78,000	.031750	.003500	.....	.....	
16,000	80,000	.035250	.003500	.....	.....	
16,400	82,000	.039250	.004000	.....	.....	
16,800	84,000	.043250	.004000	.....	.....	
17,200	86,000	.048000	.004750	.....	.....	
17,600	88,000	.0550	.0070	.....	.....	
18,000	90,000	.0650	.0100	.....	.....	
18,400	92,000	.0800	.0150	.....	.....	
18,800	94,000	.1000	.0200	.....	.....	
18,980	94,900	.1400	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,900
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2150
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		1 inch from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.24*, ″.19

[Additional specimens.]

No. 2444.

Marks, $\frac{32\ T\ H_{15}}{T_4}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
10,000	50,000	.001650	.000200	0.	.....	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001750	.000100	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001900	.000100	.....	.....	
11,000	55,000	.001950	.000050	.....	.....	Elastic limit.
11,200	56,000	.002100	.000150	.....	.....	
11,400	57,000	.005600	.003500	.....	.....	
11,600	58,000	.006500	.000900	.....	.....	
11,800	59,000	.007900	.001400	.....	.....	
12,000	60,000	.008800	.000900	.....	.....	
12,400	62,000	.009900	.001100	.....	.....	
12,800	64,000	.011900	.002000	.....	.....	
13,200	66,000	.013750	.001850	.....	.....	
13,600	68,000	.015750	.002000	.....	.....	
14,000	70,000	.017650	.001900	.....	.....	
14,400	72,000	.020100	.002450	.....	.....	
14,800	74,000	.022550	.002450	.....	.....	
15,200	76,000	.025000	.002450	.....	.....	
15,600	78,000	.027500	.002500	.....	.....	
16,000	80,000	.031250	.003750	.....	.....	
16,400	82,000	.034750	.003500	.....	.....	
16,800	84,000	.038750	.004000	.....	.....	
17,200	86,000	.043550	.004800	.....	.....	
17,600	88,000	.050000	.006440	.....	.....	
18,000	90,000	.0650	.0050	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0900	.0250	.....	.....	
19,100	95,500	.1500	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,500
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001950
Reduction in diameter at point of rupture	do...	.165
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1″.95 from neck
Character of broken surface		silky
Elongation of inch sections		″.17, ″.35*

No. 2445.

Marks, $\frac{82\ T\ H_{15}}{T_8}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000600	.000100	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001450	.000200	.....	.....	
10,000	50,000	.001600	.000150	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001650	0.	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001750	.000050	.....	.....	Elastic limit.
11,000	55,000	.003550	.001800	.....	.....	
11,200	56,000	.005100	.001550	.....	.....	
11,400	57,000	.006300	.001200	.....	.....	
11,600	58,000	.007250	.000950	.....	.....	
11,800	59,000	.008000	.000750	.....	.....	
12,000	60,000	.009000	.001000	.....	.....	
12,400	62,000	.010800	.001800	.....	.....	
12,800	64,000	.012200	.001400	.....	.....	
13,200	66,000	.014250	.002050	.....	.....	
13,600	68,000	.016750	.002500	.....	.....	
14,000	70,000	.019250	.002500	.....	.....	
14,400	72,000	.021000	.001750	.....	.....	
14,800	74,000	.023000	.002000	.....	.....	
15,200	76,000	.026100	.003100	.....	.....	
15,600	78,000	.029150	.003050	.....	.....	
16,000	80,000	.032600	.003450	.....	.....	
16,400	82,000	.036500	.003900	.....	.....	
16,800	84,000	.040000	.003500	.....	.....	
17,200	86,000	.045000	.005000	.....	.....	
17,600	88,000	.052000	.007000	.....	.....	
18,000	90,000	.0600	.0080	.....	.....	
18,400	92,200	.0700	.0100	.....	.....	
18,800	94,000	.0950	.0250	.....	.....	
19,010	95,050	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,050
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		″.17, ″.33

No. 2446.

Marks, $\frac{32\ T\ H_{15}}{T_8}$
Diameter, ".506.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000800	.000100	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001200	.000250	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001600	0.	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001700	.000050	.....	.....	Elastic limit.
11,000	55,000	.003750	.002050	.....	.....	
11,200	56,000	.004900	.001150	.....	.....	
11,400	57,000	.005900	.001000	.....	.....	
11,600	58,000	.006500	.000600	.....	.....	
11,800	59,000	.007750	.001250	.....	.....	
12,000	60,000	.008800	.001050	.....	.....	
12,400	62,000	.010250	.001450	.....	.....	
12,800	64,000	.011750	.001500	.....	.....	
13,200	66,000	.013750	.002000	.....	.....	
13,600	68,000	.016150	.002400	.....	.....	
14,000	70,000	.018400	.002250	.....	.....	
14,400	72,000	.021000	.002650	.....	.....	
14,800	74,000	.023500	.002500	.....	.....	
15,200	76,000	.026100	.002600	.....	.....	
15,600	78,000	.028750	.002650	.....	.....	
16,000	80,000	.031250	.002500	.....	.....	
16,400	82,000	.034750	.003500	.....	.....	
16,800	84,000	.038700	.003950	.....	.....	
17,200	86,000	.043500	.004800	.....	.....	
17,600	88,000	.050000	.006500	.....	.....	
18,000	90,000	.0550	.0050	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0850	.0200	.....	.....	
19,120	95,600	.1450	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,600
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.156
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		".80 from neck
Character of broken surface		silky
Elongation of inch sections		".35", ".15

No. 2457.

Marks, $\frac{32\,TH_{16}}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000030	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001200	.000200	.....	.....	
8,000	40,000	.001350	.000150	.....	.....	
9,000	45,000	.001500	.000150	.....	.....	
10,000	50,000	.001700	.000200	.....	.....	Elastic limit.
10,200	51,000	.003500	.001800	.....	.....	
10,400	52,000	.004750	.001250	.....	.....	
10,600	53,000	.005600	.000950	.....	.....	
10,800	54,000	.006100	.000500	.....	.....	
11,000	55,000	.006800	.000700	.....	.....	
11,200	56,000	.007650	.000850	.....	.....	
11,400	57,000	.008500	.000850	.....	.....	
11,600	58,000	.009200	.000700	.....	.....	
11,800	59,000	.010000	.000800	.....	.....	
12,000	60,000	.010700	.000700	.....	.....	
12,400	62,000	.012550	.001850	.....	.....	
12,800	64,000	.014000	.001450	.....	.....	
13,200	66,000	.016000	.002000	.....	.....	
13,600	68,000	.018000	.002000	.....	.....	
14,000	70,000	.020000	.002000	.....	.....	
14,400	72,000	.022250	.002250	.....	.....	
14,800	74,000	.024250	.002000	.....	.....	
15,200	76,000	.026550	.002300	.....	.....	
15,600	78,000	.029500	.002950	.....	.....	
16,000	80,000	.032250	.002750	.....	.....	
16,400	82,000	.036000	.003750	.....	.....	
16,800	84,000	.039500	.003500	.....	.....	
17,200	86,000	.044000	.004500	.....	.....	
17,600	88,000	.049600	.005600	.....	.....	
18,000	90,000	.0550	.0054	.....	.....	
18,400	92,000	.0600	.0050	.....	.....	
18,800	94,000	.0800	.0200	.....	.....	
19,200	96,000	.1000	.0200	.....	.....	
19,300	96,500	.1350	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,500
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.1450
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.045
Reduction in area after rupture, per centum of original section		16.9
Position of rupture		1 inch from neck
Character of broken surface		granular; radiating from a dull spot at the circumference
Elongation of inch sections		″.19″, ″.10

No. 2458.

Marks, $\frac{32\ T\ H_{16}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	.....	.....	
8,000	40,000	.001300	.000200	.....	.....	
9,000	45,000	.001500	.000200	.....	.....	
9,600	48,000	.001600	.000100	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	
10,000	50,000	.001700	.000050	.....	.....	
10,200	51,000	.001700	0.	.....	.....	
10,400	52,000	.001850	.000150	.....	.....	Elastic limit.
10,600	53,000	.003700	.001850	.....	.....	
10,800	54,000	.004500	.000800	.....	.....	
11,000	55,000	.005750	.001250	.....	.....	
11,200	56,000	.006200	.000450	.....	.....	
11,400	57,000	.007050	.000850	.....	.....	
11,600	58,000	.007750	.000700	.....	.....	
11,800	59,000	.008500	.000750	.....	.....	
12,000	60,000	.009150	.000650	.....	.....	
12,400	62,000	.011000	.001850	.....	.....	
12,800	64,000	.012550	.001550	.....	.....	
13,200	66,000	.014000	.001450	.....	.....	
13,600	68,000	.015600	.001600	.....	.....	
14,000	70,000	.017500	.001900	.....	.....	
14,400	72,000	.019500	.002000	.....	.....	
14,800	74,000	.021500	.002000	.....	.....	
15,200	76,000	.023500	.002000	.....	.....	
15,600	78,000	.026250	.002750	.....	.....	
16,000	80,000	.029000	.002750	.....	.....	
16,400	82,000	.032000	.003000	.....	.....	
16,800	84,000	.035250	.003250	.....	.....	
17,200	86,000	.038500	.003250	.....	.....	
17,600	88,000	.044250	.005750	.....	.....	
18,000	90,000	.049000	.004750	.....	.....	
18,400	92,000	.053000	.004000	.....	.....	
18,800	94,000	.0600	.0050	.....	.....	
19,200	96,000	.0750	.0150	.....	.....	
19,600	98,000	.1000	.0250	.....	.....	
19,660	98,300	.1200	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,300
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1650
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		″.45 from neck
Character of broken surface	granular; small dull spot at the circumference	
Elongation of inch sections		″.22, ″.11

No. 2459.

Marks, $\frac{32\ T\ H_{16}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001200	.000200	.....	.....	
8,000	40,000	.001350	.000150	.....	.....	
9,000	45,000	.001550	.000200	.....	.....	
10,000	50,000	.001750	.000200	.....	.....	Elastic limit.
10,200	51,000	.001950	.000200	.....	.....	
10,400	52,000	.002550	.000600	.....	.....	
10,600	53,000	.003550	.000100	.....	.....	
10,800	54,000	.004800	.001250	.....	.....	
11,000	55,000	.005500	.000700	.....	.....	
11,200	56,000	.006500	.001000	.....	.....	
11,400	57,000	.007200	.000700	.....	.....	
11,600	58,000	.007900	.000700	.....	.....	
11,800	59,000	.008650	.000750	.....	.....	
12,000	60,000	.009400	.000750	.....	.....	
12,400	62,000	.011050	.001650	.....	.....	
12,800	64,000	.012500	.001450	.....	.....	
13,200	66,000	.014150	.001650	.....	.....	
13,600	68,000	.016000	.001850	.....	.....	
14,000	70,000	.017250	.001250	.....	.....	
14,400	72,000	.020600	.003350	.....	.....	
14,800	74,000	.022500	.001900	.....	.....	
15,200	76,000	.025000	.002500	.....	.....	
15,600	78,000	.027000	.002000	.....	.....	
16,000	80,000	.029500	.002500	.....	.....	
16,400	82,000	.032550	.003150	.....	.....	
16,800	84,000	.036250	.003700	.....	.....	
17,200	86,000	.040000	.003750	.....	.....	
17,580	87,900	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,900
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.0850
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.015
Reduction in area after rupture, per centum of original section		5.7
Position of rupture		″.85 from neck
Character of broken surface		granula
Elongation of inch sections		″.05, ″.0

[Additional specimens.]

No. 2449.

Marks, $\frac{32\,T\,H_{16}}{T_4}$

Diameter, ″.505.

Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
10,000	50,000	.001650	.000150	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001800	.000100	.....	.....	Elastic limit.
10,600	53,000	.002250	.000450	.....	.....	
10,800	54,000	.003750	.001500	.....	.....	
11,000	55,000	.004900	.001150	.....	.....	
11,200	56,000	.005900	.001000	.....	.....	
11,400	57,000	.006500	.000600	.....	.....	
11,600	58,000	.007250	.000750	.....	.....	
11,800	59,000	.008500	.001250	.....	.....	
12,000	60,000	.009550	.001050	.....	.....	
12,400	62,000	.010750	.001200	.....	.....	
12,800	64,000	.012100	.001350	.....	.....	
13,200	66,000	.013800	.001700	.....	.....	
13,600	68,000	.015750	.001950	.....	.....	
14,000	70,000	.017750	.002000	.....	.....	
14,400	72,000	.019750	.002000	.....	.....	
14,800	74,000	.022150	.002400	.....	.....	
15,200	76,000	.024050	.001900	.....	.....	
15,600	78,000	.026500	.002450	.....	.....	
16,000	80,000	.029350	.002850	.....	.....	
16,400	82,000	.032650	.003300	.....	.....	
16,800	84,000	.036000	.003350	.....	.....	
17,200	86,000	.040600	.004600	.....	.....	
17,600	88,000	.044050	.003450	.....	.....	
18,000	90,000	.050250	.006200	.....	.....	
18,400	92,000	.0550	.004750	.....	.....	
18,800	94,000	.0650	.0100	.....	.....	
19,200	96,000	.0800	.0150	.....	.....	
19,600	98,000	.1050	.0250	.....	.....	
19,640	98,200	.1300	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,200
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		″.65 from neck
Character of broken surface		silky; trace of granulation
Elongation of inch sections		″.29*, ″.11

No. 2450.

Marks, $\frac{32\,T\,H_{16}}{T_5}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000500	.000250	0.	.....	
4,000	20,000	.000600	.000100	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001700	.000100	.....	.....	Elastic limit.
10,600	53,000	.001900	.000200	.....	.....	
10,800	54,000	.003400	.001500	.....	.....	
11,000	55,000	.004350	.000950	.....	.....	
11,200	56,000	.005300	.000950	.....	.....	
11,400	57,000	.006100	.000800	.....	.....	
11,600	58,000	.006750	.000650	.....	.....	
11,800	59,000	.007500	.000750	.....	.....	
12,000	60,000	.008500	.001000	.....	.....	
12,400	62,000	.009850	.001350	.....	.....	
12,800	64,000	.011350	.001500	.....	.....	
13,200	66,000	.012900	.001550	.....	.....	
13,600	68,000	.015200	.002300	.....	.....	
14,000	70,000	.017000	.001800	.....	.....	
14,400	72,000	.019000	.002000	.....	.....	
14,800	74,000	.020900	.001900	.....	.....	
15,200	76,000	.023000	.002100	.....	.....	
15,600	78,000	.025500	.002500	.....	.....	
16,000	80,000	.027900	.002400	.....	.....	
16,400	82,000	.030750	.002850	.....	.....	
16,800	84,000	.034000	.003250	.....	.....	
17,200	86,000	.037550	.003550	.....	.....	
17,600	88,000	.042000	.004450	.....	.....	
18,000	90,000	.046900	.004900	.....	.....	
18,400	92,000	.052500	.005600	.....	.....	
18,800	94,000	.0600	.0065	.....	.....	
19,200	96,000	.0750	.0150	.....	.....	
19,600	98,000	.0950	.0200	.....	.....	
19,800	99,000	.1450	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,000
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.1250
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.195
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		at middle of stem
Character of broken surface		silky; trace of granulation
Elongation of inch sections		″.21″, ″.23″

No. 2450*a*.

Marks, $\frac{32\ T\ H_{18}}{T_6}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001350	.000200	0.	.....	
10,000	50,000	.001550	.000200	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	Elastic limit.
10,400	52,000	.002100	.000500	.....	.....	
10,600	53,000	.003550	.001450	.....	.....	
10,800	54,000	.004700	.001150	.....	.....	
11,000	55,000	.005250	.000550	.....	.....	
11,200	56,000	.006000	.000750	.....	.....	
11,400	57,000	.006950	.000950	.....	.....	
11,600	58,000	.007700	.000750	.....	.....	
11,800	59,000	.008500	.000800	.....	.....	
12,000	60,000	.009500	.001000	.....	.....	
12,400	62,000	.010700	.001200	.....	.....	
12,800	64,000	.012350	.001650	.....	.....	
13,200	66,000	.014350	.002000	.....	.....	
13,600	68,000	.016200	.001850	.....	.....	
14,000	70,000	.018100	.001900	.....	.....	
14,400	72,000	.020000	.001900	.....	.....	
14,800	74,000	.022500	.002500	.....	.....	
15,200	76,000	.024500	.002000	.....	.....	
15,600	78,000	.027100	.002600	.....	.....	
16,000	80,000	.029700	.002600	.....	.....	
16,400	82,000	.032900	.003200	.....	.....	
16,800	84,000	.036500	.003600	.....	.....	
17,200	86,000	.040350	.003850	.....	.....	
17,600	88,000	.045350	.005000	.....	.....	
18,000	90,000	.051000	.005650	.....	.....	
18,400	92,000	.0550	.0040	.....	.....	
18,880	94,000	.0650	.0100	.....	.....	
19,200	96,000	.0900	.0250	.....	.....	
19,590	97,950	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,950
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1950
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		″.80 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.12, ″.27*

No. 2460.

Marks, $\frac{32\ T\ H_{17}}{T_1}$
Diameter, $\frac{11}{}$.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000700	.000250	0.	.....	
5,000	25,000	.000950	.000250	0.	.....	
6,000	30,000	.001100	.000150	0.	.....	
7,000	35,000	.001250	.000150	0.	.....	
8,000	40,000	.001400	.000150	.....	.....	
9,000	45,000	.001600	.000200	.....	.....	
10,000	50,000	.002000	.000400	.....	.....	
10,200	51,000	.002100	.000100	.....	.....	
10,400	52,000	.002150	.000050	.....	.....	Elastic limit.
10,600	53,000	.002550	.000400	.....	.....	
10,800	54,000	.004000	.001450	.....	.....	"
11,000	55,000	.004750	.000750	.....	.....	"
11,200	56,000	.005650	.000900	.....	.....	"
11,400	57,000	.006500	.000850	.....	.....	
11,600	58,000	.007250	.000750	.....	.....	
11,800	59,000	.008150	.000900	.....	.....	
12,000	60,000	.009000	.000850	.....	.....	
12,400	62,000	.010500	.001500	.....	.....	
12,800	64,000	.012000	.001500	.....	.....	
13,200	66,000	.013750	.001750	.....	.....	
13,600	68,000	.015150	.001400	.....	.....	
14,000	70,000	.017000	.001850	.....	.....	
14,400	72,000	.019350	.002350	.....	.....	
14,800	74,000	.021250	.001900	.....	.....	
15,200	76,000	.023250	.002000	.....	.....	
15,600	78,000	.025600	.002350	.....	.....	
16,000	80,000	.028050	.002450	.....	.....	
16,400	82,000	.031050	.003000	.....	.....	
16,800	84,000	.034250	.003200	.....	.....	
17,200	86,000	.037000	.002750	.....	.....	
17,600	88,000	.042250	.005250	.....	.....	
18,000	90,000	.046000	.003750	.....	.....	
18,400	92,000	.0500	.0040	.....	.....	
18,800	94,000	.0550	.0050	.....	.....	
19,200	96,000	.0650	.0100	.....	.....	
19,600	98,000	.0900	.0250	.....	.....	
19,920	99,600	.1300	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,600
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.002150
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		".55 from neck
Character of broken surface	granular, 70 per centum; silky, 30 per centum	
Elongation of inch sections		".25", ".15

No. 2461.

Marks, $\frac{32\ T\ H_{17}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.		
2,000	10,000	.000400	.000200	0.	.....	
3,000	15,000	.000550	.000150	0.	.....	
4,000	20,000	.000750	.000200	0.	.....	
5,000	25,000	.000900	.000150	0.	.....	
6,000	30,000	.001100	.000200	0.	.....	
7,000	35,000	.001250	.000150	.....	.....	
8,000	40,000	.001400	.000150	.....	.....	
9,000	45,000	.001550	.000150	.....	.....	
10,000	50,000	.001800	.000250	.....	.....	
10,200	51,000	.001800	0.	.....	.....	
10,400	52,000	.001850	.000050	.....	.....	
10,600	53,000	.001900	.000050	.....	.....	
10,800	54,000	.002000	.000100	.....	.....	Elastic limit.
11,000	55,000	.004200	.002200	.....	.....	
11,200	56,000	.004900	.000700	.....	.....	
11,400	57,000	.006000	.001100	.....	.....	
11,600	58,000	.006500	.000500	.....	.....	
11,800	59,000	.007250	.000750	.....	.....	
12,000	60,000	.007900	.000650	.....	.....	
12,400	62,000	.009700	.001800	.....	.....	
12,800	64,000	.011250	.001550	.....	.....	
13,200	66,000	.012750	.001500	.....	.....	
13,600	68,000	.014300	.001550	.....	.....	
14,000	70,000	.015850	.001550	.....	.....	
14,400	72,000	.018000	.002150	.....	.....	
14,800	74,000	.019750	.001750	.....	.....	
15,200	76,000	.022200	.002450	.....	.....	
15,600	78,000	.024500	.002300	.....	.....	
16,000	80,000	.026750	.002250	.....	.....	
16,400	82,000	.029500	.002750	.....	.....	
16,800	84,000	.032250	.002750	.....	.....	
17,200	86,000	.035600	.003350	.....	.....	
17,600	88,000	.039000	.003400	.....	.....	
18,000	90,000	.043050	.004050	.....	.....	
18,400	92,000	.048500	.005450	.....	.....	
18,800	94,000	.0550	.0065	.....	.....	
19,200	96,000	.0600	.0050	.....	.....	
19,600	98,000	.0700	.0100	.....	.....	
20,000	100,000	.1000	.0300	.....	.....	
20,200	101,000	.1300	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	101,000
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.002000
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		″.60 from neck
Character of broken surface		silky
Elongation of inch sections		″.27, ″.13

No. 2462.

Marks, $\frac{32\ T\ H_{IV}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000600	.000250	0.	.....	
4,000	20,000	.000800	.000200	0.	.....	
5,000	25,000	.001000	.000200	0.	.....	
6,000	30,000	.001150	.000150	0.	.....	
7,000	35,000	.001300	.000150	.....	.....	
8,000	40,000	.001450	.000150	.....	.....	
9,000	45,000	.001600	.000150	.....	.....	
9,600	48,000	.001700	.000100	.....	.....	
9,800	49,000	.001750	.000050	.....	.....	
10,000	50,000	.001800	.000050	.....	.....	
10,200	51,000	.001850	.000050	.....	.....	Elastic limit.
10,400	52,000	.002100	.000250	.....	.....	
10,600	53,000	.003500	.001400	.....	.....	
10,800	54,000	.005150	.001650	.....	.....	
11,000	55,000	.006250	.001100	.....	.....	
11,200	56,000	.007000	.000750	.....	.....	
11,400	57,000	.007600	.000600	.....	.....	
11,600	58,000	.008250	.000650	.....	.....	
11,800	59,000	.008900	.000650	.....	.....	
12,000	60,000	.009600	.000700	.....	.....	
12,400	62,000	.011700	.002100	.....	.....	
12,800	64,000	.013200	.001500	.....	.....	
13,200	66,000	.014750	.001550	.....	.....	
13,600	68,000	.016050	.001300	.....	.....	
14,000	70,000	.018000	.001950	.....	.....	
14,400	72,000	.020000	.002000	.....	.....	
14,800	74,000	.022000	.002000	.....	.....	
15,200	76,000	.024050	.002050	.....	.....	
15,600	78,000	.026500	.002450	.....	.....	
16,000	80,000	.029250	.002750	.....	.....	
16,400	82,000	.032050	.002800	.....	.....	
16,800	84,000	.035500	.003450	.....	.....	
17,200	86,000	.039000	.003500	.....	.....	
17,600	88,000	.044000	.005000	.....	.....	
18,000	90,000	.049500	.005500	.....	.....	
18,400	92,000	.0550	.0055	.....	.....	
18,800	94,000	.0600	.0050	.....	.....	
19,200	96,000	.0750	.0150	.....	.....	
19,600	98,000	.1000	.0250	.....	.....	
19,710	98,550	.1250	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,550
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1250
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		97.1
Position of rupture		″.62 from neck
Character of broken surface	granular, 50 per centum; silky, 50 per centum	
Elongation of inch sections		″.37*, ″.00

No. 2392.

Marks, $\frac{32\ T\ H_{18}}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001400	.000200	.....	.....	
10,000	50,000	.001600	.000200	.....	.....	
10,200	51,000	.001700	.000100	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001850	.000100	.....	.....	Elastic limit
10,800	54,000	.002350	.000500	.....	.....	
11,000	55,000	.003500	.001150	.....	.....	
11,200	56,000	.004250	.000750	.....	.....	
11,400	57,000	.005150	.000900	.....	.....	
11,600	58,000	.006150	.001000	.....	.....	
11,800	59,000	.007050	.000900	.....	.....	
12,000	60,000	.007650	.000600	.....	.....	
12,400	62,000	.009250	.001600	.....	.....	
12,800	64,000	.011000	.001750	.....	.....	
13,200	66,000	.012850	.001850	.....	.....	
13,600	68,000	.014600	.002250	.....	.....	
14,000	70,000	.016500	.001900	.....	.....	
14,400	72,000	.018150	.001650	.....	.....	
14,800	74,000	.020000	.001850	.....	.....	
15,200	76,000	.022250	.002250	.....	.....	
15,600	78,000	.024350	.002100	.....	.....	
16,000	80,000	.027000	.002650	.....	.....	
16,400	82,000	.029650	.002550	.....	.....	
16,800	84,000	.032500	.002950	.....	.....	
17,200	86,000	.036550	.004050	.....	.....	
17,600	88,000	.040000	.003450	.....	.....	
18,000	90,000	.045000	.005000	.....	.....	
18,400	92,000	.051600	.006000	.....	.....	
18,800	94,000	.0550	.0040	.....	.....	
19,050	95,250	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,250
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.0550
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.025
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		″.55 from neck
Character of broken surface		granular
Elongation of inch sections		″.06*, ″.05

No. 2393.

Marks, $\frac{32\ T\ H_{18}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	—.000050	—.000050	
2,000	10,000	.000250	.000150	—.000050	0.	
3,000	15,000	.000350	.000100	—.000050	0.	
4,000	20,000	.000500	.000150	—.000050	0.	
5,000	25,000	.000750	.000250	—.000050	0.	
6,000	30,000	.000900	.000150	—.000050	0.	
7,000	35,000	.001100	.000200	.....	.....	
8,000	40,000	.001300	.000200	.....	.....	
9,000	45,000	.001450	.000150	.....	.....	
10,000	50,000	.001600	.000150	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001750	.000100	.....	.....	
10,600	53,000	.001850	.000100	.....	.....	Elastic limit.
10,800	54,000	.002350	.000500	.....	.....	
11,000	55,000	.002250	.000900	.....	.....	
11,200	56,000	.004500	.001250	.....	.....	
11,400	57,000	.005650	.001150	.....	.....	
11,600	58,000	.006330	.000700	.....	.....	
11,800	59,000	.007150	.000800	.....	.....	
12,000	60,000	.008050	.000900	.....	.....	
12,400	62,000	.009700	.001650	.....	.....	
12,800	64,000	.011500	.001800	.....	.....	
13,200	66,000	.013350	.001850	.....	.....	
13,600	68,000	.015150	.001800	.....	.....	
14,000	70,000	.017050	.001900	.....	.....	
14,400	72,000	.019050	.002000	.....	.....	
14,800	74,000	.021000	.001950	.....	.....	
15,200	76,000	.023000	.002000	.....	.....	
15,600	78,000	.025600	.002600	.....	.....	
16,000	80,000	.028250	.002650	.....	.....	
16,400	82,000	.031050	.002800	.....	.....	
16,800	84,000	.034500	.003450	.....	.....	
17,200	86,000	.038000	.003500	.....	.....	
17,600	88,000	.042550	.004550	.....	.....	
18,000	90,000	.047500	.004950	.....	.....	
18,400	92,000	.0500	.0025	.....	.....	
18,800	94,000	.0600	.0100	.....	.....	
19,200	96,000	.0800	.0200	.....	.....	
19,600	98,000	.0950	.0150	.....	.....	
19,780	98,900	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,900
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.1000
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.055
Reduction in area after rupture, per centum of original section		20.5
Position of rupture		".85 from neck
Character of broken surface		granular
Elongation of inch sections		".18", ".14

No. 2394.

Marks, $\frac{32\ T\ H_{18}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000350	.000100	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000600	.000100	0.	.....	
6,000	30,000	.000750	.000150	0.	.....	
7,000	35,000	.001000	.000250	.....	.....	
8,000	40,000	.001150	.000150	.....	.....	
9,000	45,000	.001400	.000250	.....	.....	
10,000	50,000	.001550	.000150	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001600	0.	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001750	.000100	.....	.....	Elastic limit.
11,000	55,000	.002100	.000350	.....	.....	
11,200	56,000	.003550	.001450	.....	.....	
11,400	57,000	.005500	.001950	.....	.....	
11,600	58,000	.007000	.001500	.....	.....	
11,800	59,000	.007750	.000750	.....	.....	
12,000	60,000	.008500	.000750	.....	.....	
12,400	62,000	.010000	.001500	.....	.....	
12,800	64,000	.012000	.002000	.....	.....	
13,200	66,000	.013550	.001550	.....	.....	
13,600	68,000	.015600	.002050	.....	.....	
14,000	70,000	.017600	.002000	.....	.....	
14,400	72,000	.019650	.002050	.....	.....	
14,800	74,000	.021800	.002150	.....	.....	
15,200	76,000	.024550	.002750	.....	.....	
15,600	78,000	.027250	.002700	.....	.....	
16,000	80,000	.030100	.002850	.....	.....	
16,400	82,000	.033550	.003450	.....	.....	
16,800	84,000	.037500	.003950	.....	.....	
17,200	86,000	.041750	.004250	.....	.....	
17,600	88,000	.046650	.004900	.....	.....	
18,000	90,000	.053250	.006600	.....	.....	
18,400	92,000	.0600	.006750	.....	.....	
18,800	94,000	.0700	.0100	.....	.....	
19,200	96,000	.1000	.0300	.....	.....	
19,400	97,000	.1450	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,000
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		″.95 from neck
Character of broken surface	silky, 40 per centum; granular, 60 per centum; irregular surface	
Elongation of inch sections		″.28*, ″.17

[Additional specimens.]

No. 2570.

Marks, $\frac{32\ T\ H_{18}}{T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001500	.000150	.....	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	Elastic limit.
9,600	48,000	.012250	.010650	.....	.....	
9,800	49,000	.012750	.000500	.....	.....	
10,000	50,000	.013550	.000800	.....	.....	
10,200	51,000	.014350	.000800	.....	.....	
10,400	52,000	.015250	.000900	.....	.....	
10,600	53,000	.016150	.000900	.....	.....	
10,800	54,000	.017100	.000950	.....	.....	
11,000	55,000	.017850	.000750	.....	.....	
11,200	56,000	.018900	.001050	.....	.....	
11,400	57,000	.019800	.000900	.....	.....	
11,600	58,000	.020850	.001050	.....	.....	
11,800	59,000	.022000	.001150	.....	.....	
12,000	60,000	.023050	.001050	.....	.....	
12,400	62,000	.025600	.002550	.....	.....	
12,800	64,000	.028000	.002400	.....	.....	
13,200	66,000	.031050	.003050	.....	.....	
13,600	68,000	.034000	.002950	.....	.....	
14,000	70,000	.037600	.003600	.....	.....	
14,400	72,000	.041500	.003900	.....	.....	
14,800	74,000	.045750	.004250	.....	.....	
15,200	76,000	.050000	.004250	.....	.....	
15,600	78,000	.0550	.0050	.....	.....	
16,000	80,000	.0600	.0050	.....	.....	
16,400	82,000	.0750	.0150	.....	.....	
16,800	84,000	.0850	.0100	.....	.....	
17,200	86,000	.0950	.0100	.....	.....	
17,600	88,000	.1350	.0400	.....	.....	
17,760	88,800	.1800	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,800
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do ..	.001600
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34
Position of rupture		".45 from neck
Character of broken surface		granular; dull silky spot at the circumference
Elongation of inch sections		".15, ".31"

No. 2571.

Marks, $\frac{32\ T\ H_{18}}{T_5}$
Diameter, ".505.
Sectional area, .20 inch square.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000750	.000250	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001400	.000150	.....	.....	Elastic limit.
9,200	46,000	.011900	.010500	.....	.....	
9,400	47,000	.012900	.001000	.....	.....	
9,600	48,000	.013750	.000850	.....	.....	
9,800	49,000	.014550	.000800	.....	.....	
10,000	50,000	.015600	.001050	.....	.....	
10,200	51,000	.016500	.000900	.....	.....	
10,400	52,000	.017500	.001000	.....	.....	
10,600	53,000	.018500	.001000	.....	.....	
10,800	54,000	.019500	.001000	.....	.....	
11,000	55,000	.020600	.001100	.....	.....	
11,200	56,000	.021150	.000550	.....	.....	
11,400	57,000	.022500	.001350	.....	.....	
11,600	58,000	.024350	.001850	.....	.....	
11,800	59,000	.025600	.001250	.....	.....	
12,000	60,000	.026800	.001200	.....	.....	
12,400	62,000	.029700	.002900	.....	.....	
12,800	64,000	.033150	.003400	.....	.....	
13,200	66,000	.036600	.003450	.....	.....	
13,600	68,000	.041000	.004400	.....	.....	
14,000	70,000	.047000	.006000	.....	.....	
14,400	72,000	.052500	.005500	.....	.....	
14,800	74,000	.0600	.0075	.....	.....	
15,200	76,000	.0650	.0050	.....	.....	
15,600	78,000	.0800	.0150	.....	.....	
16,000	80,000	.0950	.0150	.....	.....	
16,400	82,000	.1150	.0200	.....	.....	
16,700	83,500	.1850	.0700	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,500
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.3050
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.185
Reduction in area after rupture, per centum of original section		59.8
Position of rupture		1 inch from neck
Character of broken surface		fine, silky; cup-shaped end
Elongation of inch sections		".18, ".43

No. 2572.

Marks, $\frac{32\ T\ Hs}{T_s}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
8,200	41,000	.001250	.000050	.....	.....	
8,400	42,000	.001300	.000050	.....	.....	
8,600	43,000	.001300	0.	.....	.....	
8,800	44,000	.001400	.000100	.....	.....	Elastic limit.
9,000	45,000	.010600	.009200	.....	.....	
9,200	46,000	.011500	.000900	.....	.....	
9,400	47,000	.012150	.000650	.....	.....	
9,600	48,000	.013150	.001000	.....	.....	
9,800	49,000	.014000	.000850	.....	.....	
10,000	50,000	.015000	.001000	.....	.....	
10,400	52,000	.016750	.001750	.....	.....	
10,800	54,000	.018850	.002100	.....	.....	
11,200	56,000	.020850	.002000	.....	.....	
11,600	58,000	.023250	.002400	.....	.....	
12,000	60,000	.025750	.002500	.....	.....	
12,400	62,000	.028750	.003000	.....	.....	
12,800	64,000	.032150	.003400	.....	.....	
13,200	66,000	.035250	.003100	.....	.....	
13,600	68,000	.040000	.004750	.....	.....	
14,000	70,000	.045000	.005000	.....	.....	
14,400	72,000	.050250	.005250	.....	.....	
14,800	74,000	.0550	.004750	.....	.....	
15,200	76,000	.0600	.0050	.....	.....	
15,600	78,000	.0750	.0150	.....	.....	
16,000	80,000	.0900	.0150	.....	.....	
16,400	82,000	.1050	.0150	.....	.....	
16,800	84,000	.1550	.0500	.....	.....	
16,840	84,200	.1800	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,200
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.3100
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.185
Reduction in area after rupture, per centum of original section		59.8
Position of rupture		at middle of stem
Character of broken surface		silky; cup-shaped end
Elongation of inch sections		″.27, ″.35

New Trunnion Hoop No. 18.

No. 2609.

Marks, $\frac{32\ T\ H\ 1_8}{T_7}$.
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000400	.000200	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000650	.000100	0.	.....	
6,000	30,000	.000750	.000100	0.	.....	
7,000	35,000	.000950	.000200	0.	.....	
8,000	40,000	.001100	.000150	0.	.....	
9,000	45,000	.001300	.000200	.....	.....	
9,000	48,000	.001450	.000150	.....	.....	
9,800	49,000	.001500	.000050	.....	.....	
10,000	50,000	.001550	.0 0050	.....	.....	Elastic limit.
10,200	51,000	.001750	.000200	.....	.....	
10,400	52,000	.003400	.001650	.....	.....	
10,600	53,000	.004900	.001500	.....	.....	
10,800	54,000	.006000	.001100	.....	.....	
11,000	55,000	.006750	.000750	.....	.....	
11,200	56,000	.007750	.001000	.....	.....	
11,600	58,000	.009000	.001250	.....	.....	
12,000	60,000	.011500	.002500	.....	.....	
12,400	62,000	.013750	.002250	.....	.....	
12,800	64,000	.015500	.001750	.....	.....	
13,200	66,000	.017500	.002000	.....	.....	
13,600	68,000	.020000	.002500	.....	.....	
14,000	70,000	.022250	.002250	.....	.....	
14,400	72,000	.024650	.002400	.....	.....	
14,800	74,000	.027000	.002350	.....	.....	
15,200	76,000	.029750	.002750	.....	.....	
15,600	78,000	.033500	.003750	.....	.....	
16,000	80,000	.035650	.002150	.....	.....	
16,400	82,000	.039500	.003850	.....	.....	
16,800	84,000	.044500	.005000	.....	.....	
17,200	86,000	.049250	.004750	.....	.....	
17,600	88,000	.0550	.005750	.....	.....	
18,000	90,000	.0600	.0050	.....	.....	
18,400	92,000	.0800	.0200	.....	.....	
18,800	94,000	.1000	.0200	.....	.....	
19,010	95,050	.1350	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,050
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001550
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		1″.10 from neck
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		″.13, ″.27*

No. 2610.

Marks, $\frac{82\ T\ H_{18}}{T_5}$
Diameter, $\frac{11}{16}$".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001400	.000200	.....	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001550	.000050	.....	.....	
9,800	49,000	.001500	0.	.....	.....	
10,000	50,000	.001600	.000050	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	Elastic limit.
10,400	52,000	.002000	.000350	.....	.....	
10,600	53,000	.004250	.002250	.....	.....	
10,800	54,000	.005600	.001350	.....	.....	
11,000	55,000	.006500	.000900	.....	.....	
11,200	56,000	.007050	.000550	.....	.....	
11,400	57,000	.008000	.000950	.....	.....	
11,600	58,000	.008850	.000850	.....	.....	
11,800	59,000	.009850	.001000	.....	.....	
12,000	60,000	.010750	.000900	.....	.....	
12,400	62,000	.012800	.002050	.....	.....	
12,800	64,000	.014800	.002000	.....	.....	
13,200	66,000	.017000	.002200	.....	.....	
13,600	68,000	.019000	.002000	.....	.....	
14,000	70,000	.021100	.002100	.....	.....	
14,400	72,000	.023500	.002400	.....	.....	
14,800	74,000	.026050	.002550	.....	.....	
15,200	76,000	.029000	.002950	.....	.....	
15,600	78,000	.032900	.003900	.....	.....	
16,000	80,000	.037750	.004850	.....	.....	
16,400	82,000	.040000	.002250	.....	.....	
16,800	84,000	.044000	.004000	.....	.....	
17,200	86,000	.0500	.0060	.....	.....	
17,600	88,000	.0550	.0050	.....	.....	
18,000	90,000	.0650	.0100	.....	.....	
18,400	92,000	.0850	.0200	.....	.....	
18,800	94,000	.1050	.0200	.....	.....	
18,980	94,900	.1550	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,900
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1950
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.065
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		at middle of stem
Character of broken surface	granular, 75 per centum; silky, 25 per centum	
Elongation of inch sections		.17", .22"

No. 2611.

Marks, $\frac{32\ T\ H_{18}}{T_9}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001500	.000200	.....	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001650	.000100	.....	.....	
9,600	48,000	.001700	.000050	.....	.....	
9,800	49,000	.001700	0.	.....	.....	Elastic limit.
10,000	50,000	.001950	.000250	.....	.....	
10,200	51,000	.004200	.002250	.....	.....	
10,400	52,000	.005300	.001300	.....	.....	
10,600	53,000	.006200	.000900	.....	.....	
10,800	54,000	.007000	.000800	.....	.....	
11,200	56,000	.009050	.002050	.....	.....	
11,600	58,000	.011000	.001950	.....	.....	
12,000	60,000	.012500	.001500	.....	.....	
12,400	62,000	.014550	.002050	.....	.....	
12,800	64,000	.016500	.001950	.....	.....	
13,200	66,000	.018400	.001900	.....	.....	
13,600	68,000	.020650	.002250	.....	.....	
14,000	70,000	.023000	.002350	.....	.....	
14,400	72,000	.025150	.002150	.....	.....	
14,800	74,000	.028000	.002850	.....	.....	
15,200	76,000	.030850	.002850	.....	.....	
15,600	78,000	.034150	.003300	.....	.....	
16,000	80,000	.037650	.003500	.....	.....	
16,400	82,000	.041500	.003850	.....	.....	
16,800	84,000	.047500	.006000	.....	.....	
17,200	86,000	.052500	.005000	.....	.....	
17,600	88,000	.057500	.005000	.....	.....	
18,000	90,000	.0700	.0125	.....	.....	
18,400	92,000	.0900	.0200	.....	.....	
18,800	94,000	.1050	.0150	.....	.....	
18,940	94,700	.1400	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,700
Elastic limit, per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.1950
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		1″.10 from the neck
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		″.20*, ″.19

No. 2587.

Marks, 32 $\frac{T H_1}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	.....	.....	
2,000	10,000	.000300	.000150	.....	.....	
3,000	15,000	.000450	.000150	.....	.....	
4,000	20,000	.000650	.000200	.....	.....	
5,000	25,000	.000750	.000100	.....	.....	
6,000	30,000	.000900	.000150	.....	.....	
7,000	35,000	.001050	.000150	.....	.....	
8,000	40,000	.001250	.000200	.....	.....	
9,000	45,000	.001400	.000150	.....	.....	
10,000	50,000	.001550	.000150	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001750	.000050	.....	.....	
11,000	55,000	.001800	.000050	.....	.....	Elastic limit.
11,200	56,000	.006750	.004950	.....	.....	
11,400	57,000	.007250	.000500	.....	.....	
11,600	58,000	.007750	.000500	.....	.....	
11,800	59,000	.008400	.000650	.....	.....	
12,000	60,000	.008950	.000550	.....	.....	
12,400	62,000	.010250	.001300	.....	.....	
12,800	64,000	.011650	.001400	.....	.....	
13,200	66,000	.013100	.001450	.....	.....	
13,600	68,000	.014750	.001650	.....	.....	
14,000	70,000	.016400	.001650	.....	.....	
14,400	72,000	.018350	.001950	.....	.....	
14,800	74,000	.019750	.001400	.....	.....	
15,200	76,000	.021400	.001650	.....	.....	
15,600	78,000	.023250	.001850	.....	.....	
16,000	80,000	.025100	.001850	.....	.....	
16,400	82,000	.027250	.002150	.....	.....	
16,800	84,000	.029900	.002650	.....	.....	
17,200	86,000	.032500	.002600	.....	.....	
17,600	88,000	.035500	.003000	.....	.....	
18,000	90,000	.038500	.003000	.....	.....	
18,400	92,000	.042500	.004000	.....	.....	
18,800	94,000	.046500	.004000	.....	.....	
19,200	96,000	.0500	.0035	.....	.....	
19,600	98,000	.0550	.0050	.....	.....	
20,000	100,000	.0600	.0050	.....	.....	
20,400	102,000	.0800	.0200	.....	.....	
20,800	104,000	.0950	.0150	.....	.....	
21,070	105,350	.1150	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	105,350
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.1400
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.045
Reduction in area after rupture, per centum of original section		16.9
Position of rupture		".85 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".17", ".11

No. 2588.

Marks, $\frac{32\ T\ H_{19}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000400	.000100	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001350	.000150	.....	.....	
10,000	50,000	.001550	.000200	.....	.....	
10,200	51,000	.001650	.000100	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001700	0.	.....	.....	
10,800	54,000	.001750	.000030	.....	.....	
11,000	55,000	.001800	.000050	.....	.....	
11,200	56,000	.001850	.000050	.....	.....	Elastic limit.
11,400	57,000	.003750	.001900	.....	.....	
11,600	58,000	.006750	.003000	.....	.....	
11,800	59,000	.007250	.000500	.....	.....	
12,000	60,000	.008250	.001000	.....	.....	
12,400	62,000	.009300	.001050	.....	.....	
12,800	64,000	.011000	.001700	.....	.....	
13,200	66,000	.012050	.001050	.....	.....	
13,600	68,000	.013500	.001450	.....	.....	
14,000	70,000	.015230	.001750	.....	.....	
14,400	72,000	.017000	.001750	.....	.....	
14,600	74,000	.018450	.001450	.....	.....	
15,200	76,000	.020250	.001800	.....	.....	
15,600	78,000	.022150	.001200	.....	.....	
16,000	80,000	.024500	.002350	.....	.....	
16,400	82,000	.026000	.001500	.....	.....	
16,800	84,000	.028000	.002000	.....	.....	
17,200	86,000	.030350	.002350	.....	.....	
17,600	88,000	.033500	.003150	.....	.....	
18,000	90,000	.036750	.003250	.....	.....	
18,400	92,000	.040000	.003250	.....	.....	
18,800	94,000	.043500	.003500	.....	.....	
19,200	96,000	.0475	.0040	.....	.....	
19,600	98,000	.0525	.0050	.....	.....	
20,000	100,000	.0550	.0025	.....	.....	
20,400	102,000	.0600	.0050	.....	.....	
20,800	104,000	.0800	.0200	.....	.....	
21,200	106,000	.1000	.0200	.....	.....	
21,280	106,400	.1350	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	106,400
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.1850
Elongation under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.065
Reduction in area after rupture, per centum of original section		23.0
Position of rupture		1".10 from neck
Character of broken surface, granular; dull spot at circumference; opened cracks in surface of stem		
Elongation of inch sections		".17", ".20

No. 2589.

Marks, $\frac{82\ T\ H_1}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001500	.000150	.....	.....	
10,000	50,000	.001650	.000150	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001800	.000050	.....	.....	
10,800	54,000	.001850	.000050	.....	.....	Elastic limit.
11,000	55,000	.002350	.000500	.....	.....	
11,200	56,000	.007350	.005000	.....	.....	
11,400	57,000	.008250	.000900	.....	.....	
11,600	58,000	.008750	.000500	.....	.....	
11,800	59,000	.009350	.000600	.....	.....	
12,000	60,000	.009850	.000500	.....	.....	
12,400	62,000	.011200	.001350	.....	.....	
12,800	64,000	.012450	.001250	.....	.....	
13,200	66,000	.014250	.001800	.....	.....	
13,600	68,000	.016000	.001750	.....	.....	
14,000	70,000	.017500	.001500	.....	.....	
14,400	72,000	.019050	.001550	.....	.....	
14,800	74,000	.021050	.002000	.....	.....	
15,200	76,000	.022900	.001850	.....	.....	
15,600	78,000	.025250	.002350	.....	.....	
16,000	80,000	.027500	.002250	.....	.....	
16,400	82,000	.030500	.003000	.....	.....	
16,800	84,000	.032750	.002250	.....	.....	
17,200	86,000	.035750	.003000	.....	.....	
17,600	88,000	.039300	.003550	.....	.....	
18,000	90,000	.042900	.003600	.....	.....	
18,400	92,000	.046750	.003850	.....	.....	
18,800	94,000	.0550	.008250	.....	.....	
19,200	96,000	.0600	.0050	.....	.....	
19,600	98,000	.0650	.0050	.....	.....	
20,000	100,000	.0750	.0100	.....	.....	
20,400	102,000	.0950	.0200	.....	.....	
20,720	103,600	.1400	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	103,600
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1750
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.015
Reduction in area after rupture, per centum of original section		16.9
Position of rupture		1".05 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".15, ".20"

No. 2513.

Marks, $\frac{32\ T\ H_{20}}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000800	.000100	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	.....	.....	
10,000	50,000	.001650	.000150	.....	.....	
10,200	51,000	.001750	.000100	.....	.....	Elastic limit.
10,400	52,000	.002250	.000500	.....	.....	
10,600	53,000	.003200	.000950	.....	.....	
10,800	54,000	.004000	.000800	.....	.....	
11,000	55,000	.004800	.000800	.....	.....	
11,200	56,000	.006000	.001200	.....	.....	
11,400	57,000	.007000	.001000	.....	.....	
11,600	58,000	.007750	.000750	.....	.....	
11,800	59,000	.008250	.000500	.....	.....	
12,000	60,000	.008750	.000500	.....	.....	
12,400	62,000	.010500	.001750	.....	.....	
12,800	64,000	.012250	.001750	.....	.....	
13,200	66,000	.014000	.001750	.....	.....	
13,600	68,000	.015600	.001600	.....	.....	
14,000	70,000	.017500	.001900	.....	.....	
14,400	72,000	.020000	.002500	.....	.....	
14,800	74,000	.021750	.001750	.....	.....	
15,200	76,000	.023400	.001650	.....	.....	
15,600	78,000	.026000	.002600	.....	.....	
16,000	80,000	.028750	.002750	.....	.....	
16,400	82,000	.031750	.003000	.....	.....	
16,800	84,000	.034750	.003000	.....	.....	
17,200	86,000	.038000	.003250	.....	.....	
17,600	88,000	.043250	.005250	.....	.....	
18,000	90,000	.0500	.006750	.....	.....	
18,400	92,000	.0550	.0050	.....	.....	
18,800	94,000	.0600	.0050	.....	.....	
19,200	96,000	.0750	.0150	.....	.....	
19,600	98,000	.1000	.0250	.....	.....	
19,680	98,400	.1200	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,400
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		″.55 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.25*, ″.12

No. 2514.

Marks, $\frac{32\ T\ H_{30}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000800	.000100	0.	.....	
5,000	25,000	.000850	.000250	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
9,000	45,000	.001450	.000100	.....	.....	
10,000	50,000	.001650	.000200	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	Elastic limit.
10,400	52,000	.001950	.000250	.....	.....	
10,600	53,000	.002300	.000350	.....	.....	
10,800	54,000	.003100	.000800	.....	.....	
11,000	55,000	.003900	.000800	.....	.....	
11,200	56,000	.005000	.001100	.....	.....	
11,400	57,000	.005800	.000800	.....	.....	
11,600	58,000	.006700	.000900	.....	.....	
11,800	59,000	.007350	.000650	.....	.....	
12,000	60,000	.008100	.000750	.....	.....	
12,400	62,000	.010000	.001900	.....	.....	
12,800	64,000	.011500	.001500	.....	.....	
13,200	66,000	.013200	.001700	.....	.....	
13,600	68,000	.014800	.001600	.....	.....	
14,000	70,000	.016500	.001700	.....	.....	
14,400	72,000	.018500	.002000	.....	.....	
14,800	74,000	.020300	.001800	.....	.....	
15,200	76,000	.022250	.001950	.....	.....	
15,600	78,000	.024500	.002250	.....	.....	
16,000	80,000	.027000	.002500	.....	.....	
16,400	82,000	.029850	.002850	.....	.....	
16,800	84,000	.032550	.002700	.....	.....	
17,200	86,000	.036250	.003700	.....	.....	
17,600	88,000	.041000	.004750	.....	.....	
18,000	90,000	.0450	.0040	.....	.....	
18,400	92,000	.0500	.0050	.....	.....	
19,780	98,900	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	98,900
Elastic limit per square inch of original section	do	51,000
Elongation per inch after rupture	inch	0.0500
Elongation per inch under strain at elastic limit	do	.001700
Reduction in diameter at point of rupture	do	.015
Reduction in area after rupture, per centum of original section		5.7
Position of rupture		".90 from neck
Character of broken surface		granular
Elongation of inch sections		".06", ".04

No. 2515.

Marks, $\frac{82\ T\ H_{20}}{T_2}$.
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000500	.000250	0.	.....	
4,000	20,000	.000600	.000100	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000950	.000250	0.	.....	
7,000	35,000	.001050	.000100	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001450	.000150	.....	.....	
10,000	50,000	.001550	.000100	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	Elastic limit.
10,400	52,000	.001900	.000300	.....	.....	
10,600	53,000	.002550	.000650	.....	.....	
10,800	54,000	.003600	.001050	.....	.....	
11,000	55,000	.004350	.000750	.....	.....	
11,200	56,000	.005350	.001000	.....	.....	
11,400	57,000	.006250	.000900	.....	.....	
11,600	58,000	.007250	.001000	.....	.....	
11,800	59,000	.008250	.001000	.....	.....	
12,000	60,000	.009500	.001250	.....	.....	
12,400	62,000	.011000	.001500	.....	.....	
12,800	64,000	.012100	.001100	.....	.....	
13,200	66,000	.013900	.001800	.....	.....	
13,600	68,000	.015700	.001800	.....	.....	
14,000	70,000	.017550	.001850	.....	.....	
14,400	72,000	.019750	.002200	.....	.....	
14,800	74,000	.022000	.002250	.....	.....	
15,200	76,000	.023900	.001900	.....	.....	
15,600	78,000	.027000	.003100	.....	.....	
16,000	80,000	.030000	.003000	.....	.....	
16,400	82,000	.033000	.003000	.....	.....	
16,800	84,000	.036500	.003500	.....	.....	
17,200	86,000	.041000	.004500	.....	.....	
17,600	88,000	.0500	.0090	.....	.....	
18,000	90,000	.0550	.0050	.....	.....	
18,400	92,000	.0600	.0050	.....	.....	
18,800	94,000	.0750	.0150	.....	.....	
19,200	96,000	.0950	.0200	.....	.....	
19,300	96,500	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,500
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1150
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.025
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		″.35 from neck
Character of broken surface		granular
Elongation of inch sections		″.12*, ″.11

[Additional specimens.]

No. 2573.

Marks, $\frac{32\ T\ H»}{T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001350	.000150	.....	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001450	.000050	.....	.....	
9,600	48,000	.001500	.000050	.....	.....	Elastic limit.
9,800	49,000	.002250	.000750	.....	.....	
10,000	50,000	.003300	.000050	.....	.....	
10,200	51,000	.004150	.000850	.....	.....	
10,400	52,000	.005150	.001000	.....	.....	
10,600	53,000	.006350	.001200	.....	.....	
10,800	54,000	.007350	.001000	.....	.....	
11,000	55,000	.008100	.000750	.....	.....	
11,200	56,000	.008900	.000800	.....	.....	
11,400	57,000	.009700	.000800	.....	.....	
11,600	58,000	.010500	.000800	.....	.....	
11,800	59,000	.011350	.000850	.....	.....	
12,000	60,000	.012350	.001000	.....	.....	
12,400	62,000	.014150	.001800	.....	.....	
12,800	64,000	.016300	.002150	.....	.....	
13,200	66,000	.018200	.001900	.....	.....	
13,600	68,000	.020250	.002050	.....	.....	
14,030	70,000	.022550	.002300	.....	.....	
14,400	72,000	.025000	.002450	.....	.....	
14,800	74,000	.027500	.002500	.....	.....	
15,200	76,000	.030250	.002750	.....	.....	
15,600	78,000	.033550	.003300	.....	.....	
16,000	80,000	.037250	.003750	.....	.....	
16,400	82,000	.041550	.004300	.....	.....	
16,800	84,000	.047000	.005450	.....	.....	
17,200	86,000	.052500	.005500	.....	.....	
17,600	88,000	.0600	.0075	.....	.....	
18,000	90,000	.0700	.0100	.....	.....	
18,400	92,000	.0950	.0250	.....	.....	
18,800	94,000	.1450	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,000
Elastic limit per square inch of original section	do...	48,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do...	.001560
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		46.3
Position of rupture		".70 from neck
Character of broken surface		silky; interspersed with fine granulation
Elongation of inch sections		".33", ".14

No. 2574.

Marks, $\frac{32\,T\,H_{20}}{T_5}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001350	.000150	.....	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001500	.000100	.....	.....	
9,600	48,000	.001600	.000100	.....	.....	Elastic limit.
9,800	49,000	.002100	.000500	.....	.....	
10,000	50,000	.002700	.000600	.....	.....	
10,200	51,000	.005000	.002300	.....	.....	
10,400	52,000	.005750	.000750	.....	.....	
10,600	53,000	.006950	.001200	.....	.....	
10,800	54,000	.007450	.000500	.....	.....	
11,000	55,000	.008200	.000750	.....	.....	
11,200	56,000	.009150	.000950	.....	.....	
11,400	57,000	.009900	.000750	.....	.....	
11,600	58,000	.010600	.000700	.....	.....	
11,800	59,000	.011400	.000800	.....	.....	
12,000	60,000	.012150	.000750	.....	.....	
12,400	62,000	.014350	.002200	.....	.....	
12,800	64,000	.016100	.001750	.....	.....	
13,200	66,000	.018000	.001900	.....	.....	
13,600	68,000	.020050	.002050	.....	.....	
14,000	70,000	.022550	.002500	.....	.....	
14,400	72,000	.025050	.002500	.....	.....	
14,800	74,000	.027450	.002400	.....	.....	
15,200	76,000	.029600	.002150	.....	.....	
15,600	78,000	.033350	.003750	.....	.....	
16,000	80,000	.037000	.003650	.....	.....	
16,400	82,000	.041000	.004000	.....	.....	
16,800	84,000	.047500	.006500	.....	.....	
17,200	86,000	.053500	.006000	.....	.....	
17,600	88,000	.0600	.0065	.....	.....	
18,000	90,000	.0700	.0100	.....	.....	
18,400	92,000	.0900	.0200	.....	.....	
18,800	94,000	.1250	.0350	.....	.....	
18,810	94,050	.1450	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,050
Elastic limit per square inch of original section	do...	48,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		¾ inch from neck
Character of broken surface		silky; interspersed with fine granulation
Elongation of inch sections		″.32*, .″15

No. 2575.

Marks, $\frac{32\ T\ H_{20}}{T_{\epsilon}}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000450	.000100	0.	.....	
5,000	25,000	.000600	.000150	0.	.....	
6,000	30,000	.000800	.000200	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001300	.000150	.....	.....	
9,200	46,000	.001350	.000050	.....	.....	Elastic limit.
9,400	47,000	.007900	.006550	.....	.....	
9,600	48,000	.008700	.000800	.....	.....	
9,800	49,000	.009200	.000500	.....	.....	
10,000	50,000	.009900	.000700	.....	.....	
10,200	51,000	.010750	.000850	.....	.....	
10,400	52,000	.011400	.000650	.....	.....	
10,600	53,000	.012150	.000750	.....	.....	
10,800	54,000	.013150	.001000	.....	.....	
11,000	55,000	.014050	.000900	.....	.....	
11,200	56,000	.014850	.000800	.....	.....	
11,400	57,000	.015900	.001050	.....	.....	
11,600	58,000	.016550	.000650	.....	.....	
11,800	59,000	.017450	.000900	.....	.....	
12,000	60,000	.018450	.001000	.....	.....	
12,400	62,000	.020600	.002150	.....	.....	
12,800	64,000	.022750	.002150	.....	.....	
13,200	66,000	.024850	.002100	.....	.....	
13,600	68,060	.028000	.003150	.....	.....	
14,000	70,000	.031250	.003250	.....	.....	
14,400	72,000	.035500	.004250	.....	.....	
14,800	74,000	.038000	.002500	.....	.....	
15,200	76,000	.042000	.004000	.....	.....	
15,600	78,000	.046500	.004500	.....	.....	
16,000	80,000	.052000	.005500	.....	.....	
16,400	82,000	.0600	.0080	.....	.....	
16,800	84,000	.0650	.0050	.....	.....	
17,200	86,000	.0800	.0150	.....	.....	
17,600	88,000	.0950	.0150	.....	.....	
18,000	90,000	.1200	.0250	.....	.....	
18,100	90,500	.1700	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	90,500
Elastic limit per square inch of original section	do	46,000
Elongation per inch after rupture	inch	0.2600
Elongation per inch under strain at elastic limit	do	.001350
Reduction in diameter at point of rupture	do	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		″.80 from neck
Character of broken surface		fine, silky
Elongation of inch sections		″.36*, ″.16

No. 2389.

Marks, $\frac{32\text{-}T\ H_{31}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	.....	.....	
8,000	40,000	.001300	.000200	.....	.....	
9,000	45,000	.001500	.000200	.....	.....	
9,000	48,000	.001650	.000150	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	Elastic limit.
10,000	50,000	.003250	.001550	.....	.....	
10,200	51,000	.004950	.001700	.....	.....	
10,400	52,000	.008000	.003050	.....	.....	
10,600	53,000	.009250	.001250	.....	.....	
10,800	54,000	.009750	.000500	.....	.....	
11,000	55,000	.010250	.000500	.....	.....	
11,200	56,000	.010900	.000650	.....	.....	
11,400	57,000	.011900	.001000	.....	.....	
11,600	58,000	.012700	.000800	.....	.....	
11,800	59,000	.013750	.001050	.....	.....	
12,000	60,000	.014750	.001000	.....	.....	
12,400	62,000	.016750	.002000	.....	.....	
12,800	64,000	.019350	.002600	.....	.....	
13,200	66,000	.021300	.001950	.....	.....	
13,600	68,000	.023600	.002300	.....	.....	
14,000	70,000	.026100	.002500	.....	.....	
14,400	72,000	.029250	.003150	.....	.....	
14,800	74,000	.032300	.003050	.....	.....	
15,200	76,000	.035500	.003200	.....	.....	
15,600	78,000	.040000	.004500	.....	.....	
16,000	80,000	.044750	.004750	.....	.....	
16,400	82,000	.050250	.005500	.....	.....	
16,800	84,000	.0555	.004750	.....	.....	
17,200	86,000	.0600	.0050	.....	.....	
17,550	87,750	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,750
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.0800
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.025
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		".40 from neck
Character of broken surface	granular; opened cracks in surface of stem	
Elongation of inch sections		".10*, ".06

No. 2390.

Marks, $\frac{32\ T\ H_3}{T_2}$
Diameter, ″.505.
Sectional area .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000900	.000250	0.	.....	
6,000	30,000	.001100	.000200	0.	.....	
7,000	35,000	.001250	.000150	.....	.....	
8,000	40,000	.001450	.000200	.....	.....	
9,000	45,000	.001550	.000100	.....	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001650	.000050	.....	.....	
9,600	48,000	.001700	.000050	.....	.....	Elastic limit.
9,800	49,000	.002000	.000300	.....	.....	
10,000	50,000	.012000	.010000	.....	.....	
10,200	51,000	.012900	.000900	.....	.....	
10,400	52,000	.013550	.000650	.....	.....	
10,600	53,000	.014500	.000950	.....	.....	
10,800	54,000	.015300	.000800	.....	.....	
11,000	55,000	.016050	.000750	.....	.....	
11,200	56,000	.017000	.000950	.....	.....	
11,400	57,000	.018050	.001050	.....	.....	
11,600	58,000	.019050	.001000	.....	.....	
11,800	59,000	.020000	.000950	.....	.....	
12,000	60,000	.021050	.001050	.....	.....	
12,400	62,000	.023500	.002450	.....	.....	
12,800	64,000	.026050	.002450	.....	.....	
13,200	66,000	.029000	.002950	.....	.....	
13,600	68,000	.032250	.003250	.....	.....	
14,000	70,000	.035300	.003050	.....	.....	
14,400	72,000	.039000	.003700	.....	.....	
14,800	74,000	.043750	.004750	.....	.....	
15,200	76,000	.048500	.004750	.....	.....	
15,600	78,000	.0550	.0065	.....	.....	
16,000	80,000	.0600	.0050	.....	.....	
16,400	82,000	.0750	.0150	.....	.....	
16,800	84,000	.0850	.0100	.....	.....	
17,200	86,000	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,000
Elastic limit per square inch of original section	do....	48,000
Elongation per inch after rupture	inch..	0.1000
Elongation per inch under strain at elastic limit	do....	.001700
Reduction in diameter at point of rupture	do....	.025
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		″.47 from neck
Character of broken surface, granular; radiating from a dull spot at circumference; opened cracks in surface of stem.		
Elongation of inch sections		″.11°, ″.09

No. 2391.

Marks, $\frac{32\ T\ H_{21}}{T_3}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001200	.000200	.....	.....	
8,000	40,000	.001350	.000150	.....	.....	
9,000	45,000	.001550	.000200	.....	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001600	0.	.....	.....	
9,600	48,000	.001650	.000050	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	Elastic limit.
10,000	50,000	.008250	.006550	.....	.....	
10,200	51,000	.010150	.001900	.....	.....	
10,400	52,000	.010750	.000600	.....	.....	
10,600	53,000	.011250	.000500	.....	.....	
10,800	54,000	.011700	.000450	.....	.....	
11,000	55,000	.012650	.000950	.....	.....	
11,200	56,000	.014000	.001350	.....	.....	
11,400	57,000	.015000	.001000	.....	.....	
11,600	58,000	.015750	.000750	.....	.....	
11,800	59,000	.016550	.000800	.....	.....	
12,000	60,000	.017500	.000950	.....	.....	
12,400	62,000	.019500	.002000	.....	.....	
12,800	64,000	.021500	.002000	.....	.....	
13,200	66,000	.023750	.002250	.....	.....	
13,600	68,000	.026150	.002400	.....	.....	
14,000	70,000	.029100	.002950	.....	.....	
14,400	72,000	.032250	.003150	.....	.....	
14,800	74,000	.035750	.003500	.....	.....	
15,200	76,000	.040000	.004250	.....	.....	
15,600	78,000	.045000	.005000	.....	.....	
16,000	80,000	.050000	.005000	.....	.....	
16,400	82,000	.0550	.0050	.....	.....	
16,800	84,000	.0600	.0050	.....	.....	
17,200	86,000	.0800	.0200	.....	.....	
17,600	88,000	.0950	.0150	.....	.....	
17,990	89,950	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,950
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	1.05
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		".80 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".29", ".11

[Additional specimens.]

No. 2438.

Marks, $\frac{82\ T\ H_2}{T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001350	.000300	0.	.....	
9,000	45,000	.001550	.000200	.....	.....	
9,200	46,000	.001550	0.	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	
9,600	48,000	.001650	.000050	.....	.....	Elastic limit.
9,800	49,000	.002000	.000350	.....	.....	
10,000	50,000	.013750	.011750	.....	.....	
10,200	51,000	.014750	.001000	.....	.....	
10,400	52,000	.015750	.001000	.....	.....	
10,600	53,000	.016400	.000650	.....	.....	
10,800	54,000	.017250	.000850	.....	.....	
11,000	55,000	.018000	.000750	.....	.....	
11,200	56,000	.019100	.001100	.....	.....	
11,400	57,000	.020100	.001000	.....	.....	
11,600	58,000	.021100	.001000	.....	.....	
11,800	59,000	.022150	.001050	.....	.....	
12,000	60,000	.023500	.001350	.....	.....	
12,400	62,000	.025600	.002100	.....	.....	
12,800	64,000	.028050	.002450	.....	.....	
13,200	66,000	.030600	.002550	.....	.....	
13,600	68,000	.034050	.003450	.....	.....	
14,000	70,000	.038000	.003950	.....	.....	
14,400	72,000	.041250	.003250	.....	.....	
14,800	74,000	.045600	.004350	.....	.....	
15,200	76,000	.0550	.0094	.....	.....	
15,600	78,000	.0600	.0050	.....	.....	
16,000	80,000	.0650	.0050	.....	.....	
16,400	82,000	.0750	.0100	.....	.....	
16,800	84,000	.0900	.0150	.....	.....	
17,200	86,000	.1050	.0150	.....	.....	
17,600	88,000	.1550	.0500	.....	.....	
17,630	88,150	.1850	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,150
Elastic limit per square inch of original section	do...	48,000
Elongation per inch after rupture	inch..	0.2800
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		".65 from neck
Character of broken surface		fine, silky; cup-shaped end
Elongation of inch sections		".17, ".39

No. 2439.

Marks, $\frac{32\ TH_3}{T_5}$
Diameter. ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0	.....	
3,000	15,000	.000350	.000150	0	.....	
4,000	20,000	.000600	.000250	0	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	.....	.....	
8,000	40,000	.001350	.000200	.....	.....	
9,000	45,000	.001500	.000150	.....	.....	
9,200	46,000	.001500	0.	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	
10,000	50,000	.001650	0.	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	Elastic limit.
10,400	52,000	.005000	.003300	.....	.....	
10,600	53,000	.014800	.009800	.....	.....	
10,800	54,000	.016000	.001200	.....	.....	
11,000	55,000	.016900	.000900	.....	.....	
11,200	56,000	.017500	.000600	.....	.....	
11,400	57,000	.018400	.000900	.....	.....	
11,600	58,000	.019250	.000850	.....	.....	
11,800	59,000	.020400	.001150	.....	.....	
12,000	60,000	.021200	.000800	.....	.....	
12,400	62,000	.023200	.002000	.....	.....	
12,800	64,000	.025150	.001950	.....	.....	
13,200	66,000	.027700	.002550	.....	.....	
13,600	68,000	.030650	.002950	.....	.....	
14,000	70,000	.033750	.003100	.....	.....	
14,400	72,000	.037100	.003350	.....	.....	
14,800	74,000	.041000	.003900	.....	.....	
15,200	76,000	.046000	.005000	.....	.....	
15,600	78,000	.049750	.003750	.....	.....	
16,000	80,000	.055150	.005400	.....	.....	
16,400	82,000	.0600	.004850	.....	.....	
16,800	84,000	.0700	.0100	.....	.....	
17,200	86,000	.0850	.0150	.....	.....	
17,600	88,000	.1000	.0150	.....	.....	
18,000	90,000	.1300	.0300	.....	.....	
18,140	90,700	.1550	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,700
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.145
Reduction in area after rupture, per centum of original section		49.1
Position of rupture		".55 from neck
Character of broken surface		fine, silky
Elongation of inch sections		".36",".14

No. 2440.

Marks, $\frac{32\ T\ H_{31}}{T_8}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000500	.000250	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	.....	.....	
9,000	45,000	.001500	.000150	.....	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001550	0.	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	
10,000	50,000	.001650	0.	.....	.....	Elastic limit.
10,200	51,000	.014250	.012600	.....	.....	
10,400	52,000	.015250	.001000	.....	.....	
10,600	53,000	.015750	.000500	.....	.....	
10,800	54,000	.016600	.000850	.....	.....	
11,000	55,000	.017500	.000900	.....	.....	
11,200	56,000	.018500	.001000	.....	.....	
11,400	57,000	.019500	.001000	.....	.....	
11,600	58,000	.020500	.001000	.....	.....	
11,800	59,000	.021400	.000900	.....	.....	
12,000	60,000	.022750	.001350	.....	.....	
12,400	62,000	.025150	.002400	.....	.....	
12,800	64,000	.027500	.002350	.....	.....	
13,200	66,000	.030750	.003250	.....	.....	
13,600	68,000	.034000	.003250	.....	.....	
14,000	70,000	.037500	.003500	.....	.....	
14,400	72,000	.041250	.003750	.....	.....	
14,800	74,000	.046500	.005250	.....	.....	
15,200	76,000	.051500	.005000	.....	.....	
15,600	78,000	.0550	.0035	.....	.....	
16,000	80,000	.0650	.0100	.....	.....	
16,400	82,000	.0800	.0150	.....	.....	
16,800	84,000	.0900	.0100	.....	.....	
17,200	86,000	.1050	.0150	.....	.....	
17,600	88,000	.1550	.0500	.....	.....	
17,610	88,050	.1700	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,050
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		at middle of stem
Character of broken surface		fine, silky
Elongation of inch sections		″.25, ″.30

No. 2516.

Marks, $\frac{32\ T\ H_{32}}{T_{1}}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000650	.000250	0.	.....	
5,000	25,000	.000750	.000100	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001450	.000200	.....	.....	
10,000	50,000	.001650	.000200	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001800	.000100	.....	.....	Elastic limit.
10,600	53,000	.003900	.002100	.....	.....	
10,800	54,000	.004800	.000900	.....	.....	
11,000	55,000	.005750	.000950	.....	.....	
11,200	56,000	.006750	.001000	.....	.....	
11,400	57,000	.007500	.000750	.....	.....	
11,600	58,000	.008200	.000700	.....	.....	
11,800	59,000	.009000	.000800	.....	.....	
12,000	60,000	.009650	.000650	.....	.....	
12,400	62,000	.011350	.001700	.....	.....	
12,800	64,000	.012900	.001550	.....	.....	
13,200	66,000	.014600	.001700	.....	.....	
13,600	68,000	.016000	.001400	.....	.....	
14,000	70,000	.018250	.002250	.....	.....	
14,400	72,000	.020250	.002000	.....	.....	
14,800	74,000	.022250	.002000	.....	.....	
15,200	76,000	.025000	.002750	.....	.....	
15,600	78,000	.027250	.002250	.....	.....	
16,000	80,000	.030000	.002750	.....	.....	
16,400	82,000	.033250	.003250	.....	.....	
16,800	84,000	.037000	.003750	.....	.....	
17,200	86,000	.041750	.004750	.....	.....	
17,600	88,000	.0450	.003250	.....	.....	
18,000	90,000	.0550	.0100	.....	.....	
18,400	92,000	.0600	.0050	.....	.....	
18,800	94,000	.0650	.0050	.....	.....	
19,200	96,000	.0850	.0200	.....	.....	
19,600	98,000	.1200	.0350	.....	.....	
19,620	98,100	.1400	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,100
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		1″.05 from neck
Character of broken surface		granular; dull, eccentric spot
Elongation of inch sections		″.24*, ″.16

No. 2517.

Marks, $\frac{32\ T\ B_{32}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000350	.000250	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000650	.000100	0.	.....	
5,000	25,000	.000900	.000250	0.	.....	
6,000	30,000	.001100	.000200	0.	.....	
7,000	35,000	.001250	.000150	0.	.....	
8,000	40,000	.001450	.000200	0.	.....	
9,000	45,000	.001600	.000150	.....	.....	
10,000	50,000	.001700	.000100	.....	.....	
10,200	51,000	.001750	.000050	.....	.....	Elastic limit.
10,400	52,000	.002050	.000300	.....	.....	
10,600	53,000	.003050	.001000	.....	.....	
10,800	54,000	.004650	.001600	.....	.....	
11,000	55,000	.005600	.000950	.....	.....	
11,200	56,000	.006300	.000700	.....	.....	
11,400	57,000	.007250	.000950	.....	.....	
11,600	58,000	.008250	.001000	.....	.....	
11,800	59,000	.009000	.000750	.....	.....	
12,000	60,000	.009900	.000900	.....	.....	
12,400	62,000	.011500	.001600	.....	.....	
12,800	64,000	.013500	.002000	.....	.....	
13,200	66,000	.015250	.001750	.....	.....	
13,600	68,000	.017000	.001750	.....	.....	
14,000	70,000	.019000	.002000	.....	.....	
14,400	72,000	.021750	.002750	.....	.....	
14,800	74,000	.024500	.002750	.....	.....	
15,200	76,000	.027500	.003000	.....	.....	
15,600	78,000	.030000	.002500	.....	.....	
16,000	80,000	.032500	.002500	.....	.....	
16,400	82,000	.036000	.003500	.....	.....	
16,800	84,000	.038750	.002750	.....	.....	
17,200	86,000	.043250	.004500	.....	.....	
17,600	88,000	.0530	.006750	.....	.....	
18,000	90,000	.0550	.0050	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0850	.0200	.....	.....	
19,200	96,000	.1050	.0200	.....	.....	
19,250	96,250	.1350	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,250
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1500
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.045
Reduction in area after rupture, per centum of original section		16.9
Position of rupture		1 inch from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.16, ″.14

No. 2518.

Marks, $\frac{32\ T\ H_{12}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permenent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000350	.000100	0.	.....	
4,000	20,000	.000550	.000200	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001400	.000200	.....	.....	
10,000	50,000	.001550	.000150	.....	.....	
10,200	51,000	.001650	.000100	.....	.....	Elastic limit.
10,400	52,000	.002250	.000600	.....	.....	
10,600	53,000	.003250	.001000	.....	.....	
10,800	54,000	.004350	.001100	.....	.....	
11,000	55,000	.005250	.000900	.....	.....	
11,200	56,000	.006250	.001000	.....	.....	
11,400	57,000	.007150	.000900	.....	.....	
11,600	58,000	.008000	.000850	.....	.....	
11,800	59,000	.008750	.000750	.....	.....	
12,000	60,000	.009500	.000750	.....	.....	
12,400	62,000	.011250	.001750	.....	.....	
12,800	64,000	.013050	.001800	.....	.....	
13,200	66,000	.014750	.001700	.....	.....	
13,600	68,000	.016800	.002050	.....	.....	
14,000	70,000	.019000	.002200	.....	.....	
14,400	72,000	.021000	.002000	.....	.....	
14,800	74,000	.023250	.002250	.....	.....	
15,200	76,000	.025850	.002600	.....	.....	
15,600	78,000	.028550	.002700	.....	.....	
16,000	80,000	.032000	.003450	.....	.....	
16,400	82,000	.035400	.003400	.....	.....	
16,800	84,000	.039500	.004100	.....	.....	
17,200	86,000	.043750	.004250	.....	.....	
17,600	88,000	.0500	.006250	.....	.....	
18,000	90,000	.0550	.0050	.....	.....	
18,400	92,000	.0650	.0100	.....	.....	
18,800	94,000	.0850	.0200	.....	.....	
19,200	96,000	.1050	.0200	.....	.....	
19,260	96,300	.1350	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,300
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		½ inch from neck
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		".16, ".24*

No. 2475.

Marks, $\frac{32\ T\ H_2}{T}$.
Diameter, $\frac{11}{20}$.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.001000	.000200	.....	.....	
8,000	40,000	.001150	.000150	.....	.....	
9,000	45,000	.001300	.000150	.....	.....	
10,000	50,000	.001500	.000200	.....	.....	
10,200	51,000	.001550	.000050	.....	.....	
10,400	52,000	.001550	0.	.....	.....	Elastic limit.
10,600	53,000	.002250	.000700	.....	.....	
10,800	54,000	.003250	.001000	.....	.....	
11,000	55,000	.005000	.001750	.....	.....	
11,200	56,000	.006000	.001000	.....	.....	
11,400	57,000	.007250	.001250	.....	.....	
11,600	58,000	.008000	.000750	.....	.....	
11,800	59,000	.008750	.000750	.....	.....	
12,000	60,000	.009500	.000750	.....	.....	
12,400	62,000	.011050	.001550	.....	.....	
12,800	64,000	.013050	.002000	.....	.....	
13,200	66,000	.014900	.001850	.....	.....	
13,600	68,000	.017500	.002600	.....	.....	
14,000	70,000	.019500	.002000	.....	.....	
14,400	72,000	.022000	.002500	.....	.....	
14,800	74,000	.024000	.002000	.....	.....	
15,200	76,000	.026000	.002000	.....	.....	
15,600	78,000	.029250	.003250	.....	.....	
16,000	80,000	.032350	.003100	.....	.....	
16,400	82,000	.035600	.003250	.....	.....	
16,800	84,000	.039500	.003900	.....	.....	
17,200	86,000	.044550	.005050	.....	.....	
17,600	88,000	.050000	.005450	.....	.....	
18,000	90,000	.0600	.0100	.....	.....	
18,400	92,000	.0700	.0100	.....	.....	
18,800	94,000	.0850	.0150	.....	.....	
19,180	95,900	.1250	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,900
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1300
Elongation per inch under strain at elastic limit	do...	.001550
Reduction in diameter at point of rupture	do...	.045
Reduction in area after rupture, per centum of original section		16.9
Position of rupture		½ inch from neck
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		".15", ".11

No. 2476.

Marks, $\frac{82\ T\ H_{33}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000400	.000200	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000950	.000250	0.	.....	
7,000	35,000	.001100	.000150	.....	.....	
8,000	40,000	.001250	.000150	.....	.....	
9,000	45,000	.001400	.000150	.....	.....	
10,000	50,000	.001550	.000150	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001700	.000100	.....	.....	Elastic limit.
10,600	53,000	.002100	.000400	.....	.....	
10,800	54,000	.002650	.000550	.....	.....	
11,000	55,000	.003300	.000650	.....	.....	
11,200	56,000	.005000	.001700	.....	.....	
11,400	57,000	.006100	.001100	.....	.....	
11,600	58,000	.007000	.000900	.....	.....	
11,800	59,000	.007800	.000800	.....	.....	
12,000	60,000	.008750	.000950	.....	.....	
12,400	62,000	.010500	.001750	.....	.....	
12,800	64,000	.012050	.001550	.....	.....	
13,200	66,000	.014000	.001950	.....	.....	
13,600	68,000	.016500	.002500	.....	.....	
14,000	70,000	.018500	.002000	.....	.....	
14,400	72,000	.020750	.002250	.....	.....	
14,800	74,000	.022650	.001900	.....	.....	
15,200	76,000	.025000	.002350	.....	.....	
15,600	78,000	.028100	.003100	.....	.....	
16,000	80,000	.031250	.003150	.....	.....	
16,400	82,000	.034500	.003250	.....	.....	
16,800	84,000	.038150	.003650	.....	.....	
17,200	86,000	.041750	.003600	.....	.....	
17,600	88,000	.045000	.003250	.....	.....	
18,000	90,000	.0550	.0070	.....	.....	
18,400	92,000	.0600	.0050	.....	.....	
18,800	94,000	.0900	.0200	.....	.....	
19,200	96,000	{.1100 {.1350	.0300 .0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	96,000
Elastic limit per square inch of original section	do	52,000
Elongation per inch after rupture	inch	0.1600
Elongation per inch under strain at elastic limit	do	.001700
Reduction in diameter at point of rupture	do	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		§ inch from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".22", ".10

No. 2477.

Marks, $\frac{32\ T\ H_{22}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000600	.000150	0.	.....	
6,000	30,000	.000800	.000200	0.	.....	
7,000	35,000	.001000	.000200	.....	.....	
8,000	40,000	.001150	.000150	.....	.....	
9,000	45,000	.001300	.000150	.....	.....	
10,000	50,000	.001450	.000150	.....	.....	
10,200	51,000	.001500	.000050	.....	.....	Elastic limit.
10,400	52,000	.002750	.001250	.....	.....	
10,600	53,000	.003750	.001000	.....	.....	
10,800	54,000	.004750	.001000	.....	.....	
11,000	55,000	.005600	.000850	.....	.....	
11,200	56,000	.006500	.000900	.....	.....	
11,400	57,000	.007400	.000900	.....	.....	
11,600	58,000	.008250	.000850	.....	.....	
11,800	59,000	.009200	.000950	.....	.....	
12,000	60,000	.010050	.000850	.....	.....	
12,400	62,000	.012100	.002050	.....	.....	
12,800	64,000	.014050	.001950	.....	.....	
13,200	66,000	.016000	.001950	.....	.....	
13,600	68,000	.018250	.002250	.....	.....	
14,000	70,000	.020000	.001750	.....	.....	
14,400	72,000	.022550	.002550	.....	.....	
14,800	74,000	.025500	.002950	.....	.....	
15,200	76,000	.028250	.002750	.....	.....	
15,600	78,000	.031250	.003000	.....	.....	
16,000	80,000	.034750	.003500	.....	.....	
16,400	82,000	.038500	.003750	.....	.....	
16,800	84,000	.043500	.005000	.....	.....	
17,200	86,000	.048750	.005250	.....	.....	
17,600	88,000	.0550	.006220	.....	.....	
18,000	90,000	.0600	.0050	.....	.....	
18,400	92,000	.0800	.0200	.....	.....	
18,740	93,700	.1250	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,700
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1500
Elongation per inch under strain at elastic limit	do...	.00500
Reduction in diameter at point of rupture	do ..	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		1 inch from neck
Character of broken surface, granular; dull spot at circumference; opened cracks in surface of stem		
Elongation of inch sections		″.16, ″.14

No. 2294.

Marks, $\frac{32\ T\ H_{24}}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
10,000	50,000	.001650	.000200	0.	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001800	.000100	.....	.....	Elastic limit.
10,600	53,000	.002000	.000200	.....	.....	
10,800	54,000	.002450	.000850	.....	.....	
11,000	55,000	.004050	.001200	.....	.....	
11,200	56,000	.005050	.001000	.....	.....	
11,400	57,000	.006200	.001150	.....	.....	
11,600	58,000	.007100	.000900	.....	.....	
11,800	59,000	.008000	.000900	.....	.....	
12,000	60,000	.009000	.001000	.....	.....	
12,400	62,000	.010650	.001650	.....	.....	
12,800	64,000	.012400	.001750	.....	.....	
13,200	66,000	.014550	.002150	.....	.....	
13,600	68,000	.016500	.001950	.....	.....	
14,000	70,000	.018750	.002250	.....	.....	
14,400	72,000	.021000	.002250	.....	.....	
14,800	74,000	.023000	.002000	.....	.....	
15,200	76,000	.025750	.002750	.....	.....	
15,600	78,000	.028550	.002800	.....	.....	
16,000	80,000	.031550	.003000	.....	.....	
16,400	82,000	.036000	.004450	.....	.....	
16,800	84,000	.040000	.004000	.....	.....	
17,200	86,000	.045000	.005000	.....	.....	
17,800	88,000	.051250	.006250	.....	.....	
18,000	90,000	.0600	.008750	.....	.....	
18,400	92,000	.0700	.0100	.....	.....	
18,800	94,000	.0950	.0250	.....	.....	
18,980	94,900	.1300	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,900
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.34*, ″.13

No. 2295.

Marks, $\frac{32\ T\ H_{36}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000900	.000200	0.	.....	
6,000	30,000	.001100	.000200	0.	.....	
7,000	35,000	.001250	.000150	0.	.....	
8,000	40,000	.001400	.000150	0.	.....	
9,000	45,000	.001550	.000150	0.	.....	
10,000	50,000	.001700	.000150	0.	.....	
10,200	51,000	.001750	.000050	.....	.....	Elastic limit.
10,400	52,000	.001950	.000200	.....	.....	
10,600	53,000	.002300	.000350	.....	.....	
10,800	54,000	.003100	.000800	.....	.....	
11,000	55,000	.004150	.001050	.....	.....	
11,200	56,000	.005300	.001150	.....	.....	
11,400	57,000	.006300	.001000	.....	.....	
11,600	58,000	.007300	.001000	.....	.....	
11,800	59,000	.007900	.001600	.....	.....	
12,000	60,000	.008850	.001950	.....	.....	
12,400	62,000	.010150	.001300	.....	.....	
12,800	64,000	.012050	.001900	.....	.....	
13,200	66,000	.014050	.002000	.....	.....	
13,600	68,000	.015850	.001800	.....	.....	
14,000	70,000	.017900	.002050	.....	.....	
14,400	72,000	.019900	.002000	.....	.....	
14,800	74,000	.021850	.001950	.....	.....	
15,200	76,000	.024600	.002750	.....	.....	
15,600	78,000	.027650	.003050	.....	.....	
16,000	80,000	.030650	.003000	.....	.....	
16,400	82,000	.034000	.003350	.....	.....	
16,800	84,000	.037400	.003400	.....	.....	
17,200	86,000	.042500	.005100	.....	.....	
17,600	88,000	.047500	.005000	.....	.....	
18,000	90,000	.053750	.006250	.....	.....	
18,400	92,000	.0600	.006250	.....	.....	
18,800	94,000	.0800	.0200	.....	.....	
19,180	95,900	.1150	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	95,900
Elastic limit per square inch of original section	do	51,000
Elongation per inch after rupture	inch	0.1400
Elongation per inch under strain at elastic limit	do	.001750
Reduction in diameter at point of rupture	do	.045
Reduction in area after rupture, per centum of original section		16.9
Position of rupture		".80 from neck
Character of broken surface, granular; small crack at circumference; opened cracks in surface of stem		
Elongation of inch sections		".19", ".09

No. 2296.

Marks, $\frac{32\,T\,H_{24}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.001000	.000250	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
10,000	50,000	.001700	.000200	0.	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	Elastic limit.
10,600	53,000	.002800	.000800	.....	.....	
10,800	54,000	.004200	.001400	.....	.....	
11,000	55,000	.005350	.001350	.....	.....	
11,200	56,000	.006350	.001000	.....	.....	
11,400	57,000	.007300	.000950	.....	.....	
11,600	58,000	.008100	.000800	.....	.....	
11,800	59,000	.009100	.001000	.....	.....	
12,000	60,000	.010000	.000900	.....	.....	
12,400	62,000	.011550	.001550	.....	.....	
12,800	64,000	.013500	.001950	.....	.....	
13,200	66,000	.015100	.001600	.....	.....	
13,600	68,000	.017250	.002150	.....	.....	
14,000	70,000	.019700	.002450	.....	.....	
14,400	72,000	.022250	.002550	.....	.....	
14,800	74,000	.024750	.002500	.....	.....	
15,200	76,000	.027500	.002750	.....	.....	
15,600	78,000	.030500	.003000	.....	.....	
16,000	80,000	.033000	.002500	.....	.....	
16,400	82,000	.0350	.0020	.....	.....	
16,800	84,000	.0400	.0050	.....	.....	
17,200	86,000	.0500	.0100	.....	.....	
17,600	88,000	.0550	.0050	.....	.....	
18,000	90,000	.0600	.0050	.....	.....	
18,400	92,000	.0750	.0150	.....	.....	
18,600	93,000	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,000
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.900
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.025
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		at middle of stem
Character of broken surface		granular

Fractured at a small crack in the stem which became visible during the test.
Elongation of inch sections ..... ″.09*, ″.09*

[Additional specimens.]

No. 2523.

Marks, $\frac{32\ T\ Hs}{T_4}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	.....	.....	
8,000	40,000	.001250	.000200	.....	.....	
9,000	45,000	.001450	.000200	.....	.....	
10,000	50,000	.001650	.000200	.....	.....	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001700	0.	.....	.....	
10,800	54,000	.001750	.000050	.....	.....	
11,000	55,000	.001800	.000050	.....	.....	
11,200	56,000	.001800	0.	.....	.....	
11,400	57,000	.001850	.000050	.....	.....	
11,600	58,000	.001850	0.	.....	.....	
11,800	59,000	.001900	.000050	.....	.....	Elastic limit.
12,000	60,000	.003300	.001400	.....	.....	
12,400	62,000	.006400	.003100	.....	.....	
12,800	64,000	.009000	.002600	.....	.....	
13,200	66,000	.012500	.003500	.....	.....	
13,600	68,000	.013500	.001000	.....	.....	
14,000	70,000	.016000	.002500	.....	.....	
14,400	72,000	.017900	.001900	.....	.....	
14,800	74,000	.020500	.002600	.....	.....	
15,200	76,000	.022800	.002300	.....	.....	
15,600	78,000	.026000	.003200	.....	.....	
16,000	80,000	.029350	.003350	.....	.....	
16,400	82,000	.032500	.003150	.....	.....	
16,800	84,000	.036200	.003700	.....	.....	
17,200	86,000	.040900	.004700	.....	.....	
17,600	88,000	.047000	.006100	.....	.....	
18,000	90,000	.054500	.007500	.....	.....	
18,400	92,000	.0600	.0055	.....	.....	
18,800	94,000	.0800	.0200	.....	.....	
19,020	95,100	.1150	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,100
Elastic limit per square inch of original section	do...	59,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.025
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		".65 from neck
Character of broken surface		fine, silky
Elongation of inch sections		".11, ".27"

No. 2524.

Marks, $\frac{33\ T\ H_{24}}{T_5}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000400	.000200	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001500	.000250	.....	.....	
10,000	50,000	.001650	.000150	.....	.....	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001850	.000100	.....	.....	
11,000	55,000	.001850	0.	.....	.....	
11,200	56,000	.001950	.000100	.....	.....	Elastic limit.
11,400	57,000	.006200	.004250	.....	.....	
11,600	58,000	.007100	.000900	.....	.....	
11,800	59,000	.008100	.001000	.....	.....	
12,000	60,000	.008600	.000700	.....	.....	
12,400	62,000	.010650	.002050	.....	.....	
12,800	64,000	.012500	.001850	.....	.....	
13,200	66,000	.014350	.001850	.....	.....	
13,600	68,000	.016300	.001950	.....	.....	
14,000	70,000	.018500	.002200	.....	.....	
14,400	72,000	.020600	.002100	.....	.....	
14,800	74,000	.022750	.002150	.....	.....	
15,200	76,000	.025400	.002650	.....	.....	
15,600	78,000	.028150	.002750	.....	.....	
16,000	80,000	.031400	.003250	.....	.....	
16,400	82,000	.034800	.003400	.....	.....	
16,800	84,000	.038750	.003950	.....	.....	
17,200	86,000	.043500	.004750	.....	.....	
17,600	88,000	.049000	.005500	.....	.....	
18,000	90,000	.057300	.008300	.....	.....	
18,400	92,000	.0650	.0077	.....	.....	
18,800	94,000	.0850	.0200	.....	.....	
19,100	95,800	.1300	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,800
Elastic limit per square inch of original section	do...	56,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001950
Reduction in diameter at point of rupture	do...	.175
Reduction in area after rupture, per centum of original section		57.2
Position of rupture		at middle of stem
Character of broken surface		fine, silky
Elongation of inch sections		″.27, ′.25

No. 2525.

Marks, $\frac{32\ T\ H_{24}}{T_6}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000650	.000100	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001400	.000150	.....	.....	
10,000	50,000	.001650	.000250	.....	.....	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	
11,000	55,000	.001800	0.	.....	.....	
11,200	56,000	.001900	.000100	.....	.....	Elastic limit.
11,400	57,000	.002650	.000750	.....	.....	
11,600	58,000	.005150	.002500	.....	.....	
11,800	59,000	.006350	.001200	.....	.....	
12,000	60,000	.007000	.000650	.....	.....	
12,400	62,000	.009350	.002350	.....	.....	
12,800	64,000	.011500	.002150	.....	.....	
13,200	66,000	.013500	.002000	.....	.....	
13,600	68,000	.015100	.002600	.....	.....	
14,000	70,000	.017500	.002400	.....	.....	
14,400	72,000	.019900	.002400	.....	.....	
14,800	74,000	.022000	.002100	.....	.....	
15,200	76,000	.024800	.002800	.....	.....	
15,600	78,000	.027900	.003100	.....	.....	
16,000	80,000	.031000	.003100	.....	.....	
16,400	82,000	.034700	.003700	.....	.....	
16,800	84,000	.038750	.004050	.....	.....	
17,200	86,000	.043500	.004750	.....	.....	
17,600	88,000	.049350	.005850	.....	.....	
18,000	90,000	.057500	.008150	.....	.....	
18,400	92,000	.0750	.0175	.....	.....	
18,800	94,000	.0900	.0150	.....	.....	
19,040	95,200	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,200
Elastic limit per square inch of original section	do...	56,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.175
Reduction in area after rupture, per centum of original section		57.2
Position of rupture		1 inch from neck
Character of broken surface		fine, silky
Elongation of inch sections		″.34*, ″.16

No. 2463.

Marks, $\frac{32\ T\ Hs}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001150	.000200	.....	.....	
8,000	40,000	.001300	.000150	.....	.....	
9,000	45,000	.001450	.000150	.....	.....	
10,000	50,000	.001600	.000150	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001850	.000100	.....	.....	Elastic limit.
11,000	55,000	.002400	.000550	.....	.....	
11,200	56,000	.003600	.001200	.....	.....	
11,400	57,000	.004500	.000900	.....	.....	
11,600	58,000	.005250	.000750	.....	.....	
11,800	59,000	.006100	.000850	.....	.....	
12,000	60,000	.007050	.000950	.....	.....	
12,400	62,000	.009000	.001950	.....	.....	
12,800	64,000	.010600	.001600	.....	.....	
13,200	66,000	.012250	.001650	.....	.....	
13,600	68,000	.014050	.001800	.....	.....	
14,000	70,000	.015850	.001800	.....	.....	
14,400	72,000	.017950	.002100	.....	.....	
14,800	74,000	.020000	.002050	.....	.....	
15,200	76,000	.022200	.002200	.....	.....	
15,600	78,000	.025000	.002800	.....	.....	
16,000	80,000	.027300	.002300	.....	.....	
16,400	82,000	.030100	.002800	.....	.....	
16,800	84,000	.033500	.003400	.....	.....	
17,200	86,000	.037000	.003500	.....	.....	
17,600	88,000	.041050	.004050	.....	.....	
18,000	90,000	.046000	.004950	.....	.....	
18,400	92,000	.052000	.006000	.....	.....	
18,800	94,000	.0550	.0030	.....	.....	
19,200	96,000	.0650	.0100	.....	.....	
19,600	98,000	.0900	.0250	.....	.....	
19,680	98,400	.1050	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,400
Elastic limit per square inch of original section	do..	54,000
Elongation per inch after rupture	inch..	0.1100
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.045
Reduction in area after rupture, per centum of original section		16.9
Position of rupture		".70 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".14*, ".08

No. 2464.

Marks, $\frac{32\ T\ H_{25}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	.....	.....	
8,000	40,000	.001350	.000200	.....	.....	
9,000	45,000	.001550	.000200	.....	.....	
10,000	50,000	.001750	.000200	.....	.....	
10,200	51,000	.001800	.000050	.....	.....	
10,400	52,000	.001900	.000100	.....	.....	Elastic limit.
10,600	53,000	.002250	.000350	.....	.....	
10,800	54,000	.003100	.000850	.....	.....	
11,000	55,000	.004350	.001250	.....	.....	
11,200	56,000	.005400	.001050	.....	.....	
11,400	57,000	.006400	.001000	.....	.....	
11,600	58,000	.007400	.001000	.....	.....	
11,800	59,000	.008100	.000700	.....	.....	
12,000	60,000	.009000	.000900	.....	.....	
12,400	62,000	.010750	.001750	.....	.....	
12,800	64,000	.012500	.001750	.....	.....	
13,200	66,000	.014350	.001850	.....	.....	
13,600	68,000	.016250	.001900	.....	.....	
14,000	70,000	.018200	.001950	.....	.....	
14,400	72,000	.020250	.002050	.....	.....	
14,800	74,000	.022500	.002250	.....	.....	
15,200	76,000	.025000	.002500	.....	.....	
15,600	78,000	.028000	.003000	.....	.....	
16,000	80,000	.031000	.003000	.....	.....	
16,400	82,000	.034500	.003500	.....	.....	
16,800	84,000	.037700	.003200	.....	.....	
17,200	86,000	.042000	.004300	.....	.....	
17,600	88,000	.046500	.004500	.....	.....	
18,000	90,000	.052500	.006000	.....	.....	
18,400	92,000	.0550	.0025	.....	.....	
18,800	94,000	.0650	.0100	.....	.....	
19,200	96,000	.0900	.0250	.....	.....	
19,350	96,750	.1350	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,[illegible]
Elastic limit per square inch of original section	do...	52,[illegible]
Elongation per inch after rupture	inch..	0.16[illegible]
Elongation per inch under strain at elastic limit	do...	.001[illegible]
Reduction in diameter at point of rupture	do...	.0[illegible]
Reduction in area after rupture, per centum of original section		23.9
Position of rupture		″.90 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.21″, [illegible].12

No. 2465.

Marks, $\frac{32\ T\ H_{28}}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0:	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001050	.000150	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001350	.000150	.....	.....	
10,000	50,000	.001550	.000200	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001700	0.	.....	.....	Elastic limit.
11,000	55,000	.003350	.001650	.....	.....	
11,200	56,000	.004750	.001400	.....	.....	
11,400	57,000	.005900	.001150	.....	.....	
11,600	58,000	.006550	.000650	.....	.....	
11,800	59,000	.007500	.000950	.....	.....	
12,000	60,000	.008200	.000700	.....	.....	
12,400	62,000	.010000	.001800	.....	.....	
12,800	64,000	.012000	.002000	.....	.....	
13,200	66,000	.013000	.001000	.....	.....	
13,600	68,000	.014550	.001550	.....	.....	
14,000	70,000	.017250	.002700	.....	.....	
14,400	72,000	.020000	.002750	.....	.....	
14,800	74,000	.022400	.002400	.....	.....	
15,200	76,000	.025000	.002600	.....	.....	
15,600	78,000	.027500	.002500	.....	.....	
16,000	80,000	.030350	.002850	.....	.....	
16,400	82,000	.034250	.003900	.....	.....	
16,800	84,000	.037250	.003000	.....	.....	
17,200	86,000	.042000	.004750	.....	.....	
17,600	88,000	.047500	.005500	.....	.....	
18,000	90,000	.053750	.006250	.....	.....	
18,400	92,000	.0600	.006250	.....	.....	
18,800	94,000	.0750	.0150	.....	.....	
19,200	96,000	.1050	.0300	.....	.....	
19,240	96,200	.1350	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,200
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1990
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		1″.10 from neck
Character of broken surface		silky
Elongation of inch sections		″.23*, ″.15

[Additional specimens.]

No. 2704.

Marks, $\frac{83\ T\ Hs}{T_4}$
Diameter, ".506.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001450	.000150	.....	.....	
10,000	50,000	.001650	.000200	.....	.....	
10,200	51,000	.001650	0.	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001750	0.	.....	.....	
11,000	55,000	.001800	.000050	.....	.....	Elastic limit.
11,200	56,000	.002250	.000450	.....	.....	
11,400	57,000	.004200	.001950	.....	.....	
11,600	58,000	.005400	.001200	.....	.....	
11,800	59,000	.006500	.001100	.....	.....	
12,000	60,000	.007700	.001200	.....	.....	
12,400	62,000	.009750	.002050	.....	.....	
12,800	64,000	.011500	.001750	.....	.....	
13,200	66,000	.013000	.001500	.....	.....	
13,600	68,000	.015400	.002400	.....	.....	
14,000	70,000	.017000	.001600	.....	.....	
14,400	72,000	.019250	.002250	.....	.....	
14,800	74,000	.021500	.002250	.....	.....	
15,200	76,000	.024000	.002500	.....	.....	
15,600	78,000	.027000	.003000	.....	.....	
16,000	80,000	.029500	.002500	.....	.....	
16,400	82,000	.032550	.003050	.....	.....	
16,800	84,000	.036100	.003550	.....	.....	
17,200	86,000	.040000	.003900	.....	.....	
17,600	88,000	.045000	.005000	.....	.....	
18,000	90,000	.051500	.006500	.....	.....	
18,400	92,000	.0550	.0035	.....	.....	
18,800	94,000	.0650	.0100	.....	.....	
19,200	96,000	.0850	.0200	.....	.....	
19,390	96,950	.1250	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	96,950
Elastic limit per square inch of original section	do	55,000
Elongation per inch after rupture	inch	0.2250
Elongation per inch under strain at elastic limit	do	.001800
Reduction in diameter at point of rupture	do	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		".34", ".11

No. 2705.

Marks, $\frac{32\ T\ Hs}{Ts}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000255	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001450	.000250	.....	.....	
10,000	50,000	.001600	.000150	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001800	.000100	.....	.....	Elastic limit.
10,800	54,000	.002500	.000700	.....	.....	
11,000	55,000	.003500	.001000	.....	.....	
11,200	56,000	.004150	.000650	.....	.....	
11,400	57,000	.005350	.001200	.....	.....	
11,600	58,000	.006500	.001150	.....	.....	
11,800	59,000	.007350	.000850	.....	.....	
12,000	60,000	.008400	.001050	.....	.....	
12,400	62,000	.010000	.001600	.....	.....	
12,800	64,000	.012000	.002000	.....	.....	
13,200	66,000	.013750	.001750	.....	.....	
13,600	68,000	.015750	.002000	.....	.....	
14,000	70,000	.017750	.002000	.....	.....	
14,400	72,000	.020000	.002250	.....	.....	
14,800	74,000	.022250	.002250	.....	.....	
15,200	76,000	.025000	.002750	.....	.....	
15,600	78,000	.027250	.002250	.....	.....	
16,000	80,000	.030000	.002750	.....	.....	
16,400	82,000	.033900	.003900	.....	.....	
16,800	84,000	.037500	.003600	.....	.....	
17,200	86,000	.041250	.003750	.....	.....	
17,600	88,000	.047050	.005800	.....	.....	
18,000	90,000	.054000	.006950	.....	.....	
18,400	92,000	.0600	.0060	.....	.....	
18,800	94,000	.0650	.0050	.....	.....	
19,200	96,000	.0950	.0300	.....	.....	
19,300	96,500	.1200	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,500
Elastic limit per square inch of original section	do....	53,000
Elongation per inch after rupture	inch...	0.1950
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture		".65 from neck
Character of broken surface		silky
Elongation of inch sections		".29*, ".10

No. 2706.

Marks, $\frac{32\ TH_{25}}{T_6}$
Diameter, ″.506.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000700	.000150	0.	.....	
6,000	30,000	.000800	.000100	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001300	.000150	.....	.....	
10,000	50,000	.001550	.000250	.....	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001800	.000100	.....	.....	
11,000	55,000	.001900	.000100	.....	.....	Elastic limit.
11,200	56,000	.002550	.000650	.....	.....	
11,400	57,000	.003200	.000650	.....	.....	
11,600	58,000	.004500	.001300	.....	.....	
11,800	59,000	.005950	.001450	.....	.....	
12,000	60,000	.007000	.001050	.....	.....	
12,400	62,000	.008750	.001750	.....	.....	
12,800	64,000	.010500	.001750	.....	.....	
13,200	66,000	.012300	.001800	.....	.....	
13,600	68,000	.014000	.001700	.....	.....	
14,000	70,000	.016000	.002000	.....	.....	
14,400	72,000	.018050	.002050	.....	.....	
14,800	74,000	.020200	.002150	.....	.....	
15,200	76,000	.022500	.002300	.....	.....	
15,600	78,000	.025250	.002750	.....	.....	
16,000	80,000	.028050	.002800	.....	.....	
16,400	82,000	.031000	.002950	.....	.....	
16,800	84,000	.033750	.002750	.....	.....	
17,200	86,000	.037500	.003750	.....	.....	
17,600	88,000	.042000	.004500	.....	.....	
18,000	90,000	.046750	.004750	.....	.....	
18,400	92,000	.053500	.006750	.....	.....	
18,800	94,000	.0600	.0065	.....	.....	
19,200	96,000	.0700	.0100	.....	.....	
19,600	98,000	.0950	.0250	.....	.....	
19,650	98,250	.1200	.0250	.....	.....	Tensile strength.

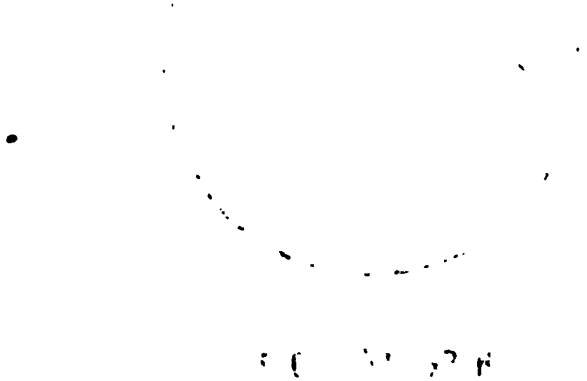
General summary.

Tensile strength per square inch of original section	pounds..	98,250
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.1350
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		″.60 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.19°, ″.08

SPECIMENS FROM STEEL BREECH BLOCKS

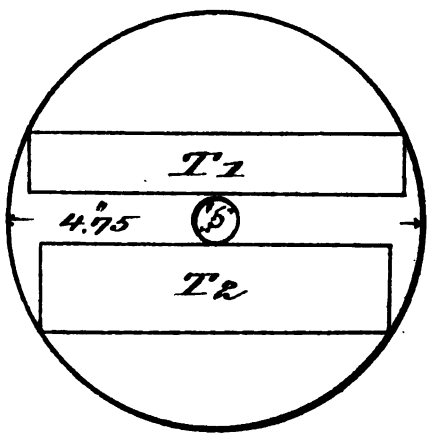
FOR

3″.2 STEEL B. L. RIFLES.



Breech Block 3.2" Rifle

General drawing showing positions from whence specimens were taken.



H Ex 31 49 2

SPECIMENS FROM STEEL BREECH BLOCKS FOR 3″.2 STEEL B. RIFLES.

No. 2054.

Marks, $^{32\ B\ B_1}_{T_1}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1, 000	0.	0.	0.	0.	Initial load.
1, 000	5, 000	.000050	.000050	0.		
2, 000	10, 000	.000150	.000100	0.		
3, 000	15, 000	.000350	.000200	0.		
4, 000	20, 000	.000600	.000250	0.		
5, 000	25, 000	.000800	.000200	0.		
6, 000	30, 000	.001000	.000200	.000050	.000050	
7, 000	35, 000	.001150	.000150	.000050	0.	
8, 000	40, 000	.001300	.000150	.000050	0.	
9, 000	45, 000	.001450	.000150	.000050	0.	
9, 200	46, 000	.001500	.000050			
9, 400	47, 000	.001550	.000050			
9, 600	48, 000	.001600	.000050			
9, 800	49, 000	.001650	.000050			
10, 000	50, 000	.001750	.000100	.000050	0.	Elastic limit.
10, 200	51, 000	.001900	.000150			
10, 400	52, 000	.002200	.000300			
10, 600	53, 000	.002550	.000350			
10, 800	54, 000	.003050	.000500			
11, 000	55, 000	.003650	.000600	.001700	.001650	
11, 200	56, 000	.004150	.000500			
11, 400	57, 000	.004650	.000500			
11, 600	58, 000	.005300	.000650			
11, 800	59, 000	.006050	.000750			
12, 000	60, 000	.006900	.000850			
12, 400	62, 000	.008250	.001350			
12, 800	64, 000	.009800	.001550			
13, 200	66, 000	.011200	.001400			
13, 600	68, 000	.012700	.001500			
14, 000	70, 000	.014500	.001800			
14, 400	72, 000	.016100	.001600			
14, 800	74, 000	.018000	.001900			
15, 200	76, 000	.019900	.001900			
15, 600	78, 000	.021750	.001850			
16, 000	80, 000	.024000	.002250			
16, 400	82, 000	.026500	.002500			
16, 800	84, 000	.029000	.002500			
17, 200	86, 000	.031850	.002850			
17, 600	88, 000	.034350	.002500			
18, 000	90, 000	.038500	.004150			
18, 400	92, 000	.042050	.003550			
18, 800	94, 000	.047500	.005450			
19, 200	96, 000	.053000	.005500			
19, 600	98, 000	.0650	.0120			
20, 000	100, 000	.0750	.0100			
20, 400	102, 000	.0950	.0200			
20, 520	102, 600	.1300	.0350			Tensile strength.

General summary.

Specific gravity	7.8
Tensile strength per square inch of original section	pounds.. 102,600
Elastic limit per square inch of original section	do... 50,000
Elongation per inch after rupture	inch.. 0.1300
Elongation per inch under strain at elastic limit	do... .00165
Reduction in diameter at point of rupture	do...
Reduction in area after rupture, per centum of original section	
Position of rupture	″.3 from r
Character of broken surface	granular; dull ce
Elongation of inch sections	″.22*,

No. 584.

Marks, $\frac{32\ B\ B_1}{T_2}$
Length, 4″.00.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000600	.000100	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.001000	.000250	0.	.....	
17,500	35,000	.001150	.000150	0.	.....	
20,000	40,000	.001300	.000150	0.	.....	
22,500	45,000	.001500	.000200	0.	.....	
25,000	50,000	.001700	.000200	0.	.....	
25,500	51,000	.001750	.000050	.....	.....	
26,000	52,000	.001750	0.	.....	.....	
26,500	53,000	.001750	0.	.....	.....	
27,000	54,000	.001800	.000050	.....	.....	
27,500	55,000	.001800	0.	0.	.....	
28,000	56,000	.001900	.000100	.....	.....	
28,500	57,000	.002000	.000100	.....	.....	Elastic limit.
29,000	58,000	.002200	.000200	.....	.....	
29,500	59,000	.002500	.000300	.....	.....	
30,000	60,000	.003000	.000500	.001100	.001100	
30,500	61,000	.003500	.000500	.....	.....	
31,000	62,000	.004000	.000500	.....	.....	
31,500	63,000	.004500	.000500	.....	.....	
32,000	64,000	.005000	.000500	.....	.....	
32,500	65,000	.005500	.000500	.001800	.000700	
33,000	66,000	.006100	.000600	.....	.....	
33,500	67,000	.006500	.000400	.....	.....	
34,000	68,000	.007250	.000750	.....	.....	
34,500	69,000	.007800	.000550	.....	.....	
35,000	70,000	.008500	.000700	.006000	.004200	
53,100	106,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	57,000
Compression per inch under stress at elastic limit	inch..	0.002[illegible]
Ultimate strength per square inch of original section	pounds..	106,2[illegible]
Manner of failure		triple flexure

No. 2044.

Marks, $\frac{32\ B\ B_2}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000200	.000100	0.		
3,000	15,000	.000350	.000150	0.		
4,000	20,000	.000550	.000200	0.		
5,000	25,000	.000700	.000150	0.		
6,000	30,000	.000850	.000150	0.		
7,000	35,000	.001050	.000200	0.		
8,000	40,000	.001150	.000100	0.		
9,000	45,000	.001350	.000200	0.		
9,200	46,000	.001400	.000050			
9,400	47,000	.001450	.000050			
9,600	48,000	.001500	.000050			
9,800	49,000	.001550	.000050			
10,000	50,000	.001550	0.	0.		
10,200	51,000	.001600	.000050			
10,400	52,000	.001700	.000100			
10,600	53,000	.001750	.000050			
10,800	54,000	.001850	.000100			Elastic limit.
11,000	55,000	.002200	.000350	.000450	.000450	
11,200	56,000	.002750	.000550			
11,400	57,000	.003100	.000350			
11,600	58,000	.003850	.000750			
11,800	59,000	.004350	.000500			
12,000	60,000	.005000	.001550			
12,400	62,000	.006750	.000850			
12,800	64,000	.008200	.001450			
13,200	66,000	.009750	.001550			
13,600	68,000	.011200	.001450			
14,000	70,000	.013100	.001900			
14,400	72,000	.014900	.001800			
14,800	74,000	.016600	.001700			
15,200	76,000	.018750	.002150			
15,600	78,000	.021000	.002250			
16,000	80,000	.023000	.002000			
16,400	82,000	.025350	.002350			
16,800	84,000	.028200	.002850			
17,200	86,000	.031000	.002800			
17,600	88,000	.033650	.002650			
18,000	90,000	.037750	.004100			
18,400	92,000	.042000	.004250			
18,800	94,000	.046850	.004850			
19,200	96,000	.053700	.006850			
19,600	98,000	.062200	.008500			
20,000	100,000	.0750	.0128			
20,400	102,000	.1050	.0300			Tensile strength.

General summary.

Specific gravity		7.8661
Tensile strength per square inch of original section	pounds..	102,000
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		".45 from neck
Character of broken surface		granular; dull center
Elongation of inch sections		".25*, ".09

No. 581.

Marks, $\frac{32\ B\ B_2}{T_2}$
Length, 4″.005.
Diameter, ″.797.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000050	.000050	0.	.....	
5,000	10,000	.000250	.000200	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001050	.000200	0.	.....	
20,000	40,000	.001250	.000200	0.	.....	
22,500	45,000	.001500	.000250	0.	.....	
23,000	46,000	.001500	0.	.....	.....	
23,500	47,000	.001550	.000050	.....	.....	
24,000	48,000	.001600	.000050	.....	.....	
24,500	49,000	.001600	0.	.....	.....	
25,000	50,000	.001650	.000050	.000050	.000050	
25,500	51,000	.001650	0.	.....	.....	
26,000	52,000	.001750	.000100	.....	.....	
26,500	53,000	.001750	0.	.....	.....	
27,000	54,000	.001800	.000050	.....	.....	Elastic limit.
27,500	55,000	.002000	.000200	.000250	.000200	
28,000	56,000	.002250	.000250	.....	.....	
28,500	57,000	.002550	.000300	.....	.....	
29,000	58,000	.003100	.000550	.....	.....	
29,500	59,000	.003750	.000650	.....	.....	
30,000	60,000	.004500	.000750	.002500	.002250	
54,200	108,400	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.001800
Ultimate strength per square inch of original section	pounds..	108,400
Manner of failure		triple flexure

No. 2055.

Marks, $\frac{32\ B\ B_2}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	
1,000	5,000	.000100	.000100	0.	.....	Initial load.
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000500	.000200	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001600	0.	.....	.....	
10,000	50,000	.001650	.000050	0.	.....	
10,200	51,000	.001750	.000100	.....	.....	Elastic limit.
10,400	52,000	.002250	.000500	.....	.....	
10,600	53,000	.003000	.000750	.....	.....	
10,800	54,000	.003650	.000650	.....	.....	
11,000	55,000	.004450	.000800	.002500	.002500	
11,200	56,000	.005100	.000650	.....	.....	
11,400	57,000	.005850	.000750	.....	.....	
11,600	58,000	.006400	.000550	.....	.....	
11,800	59,000	.007300	.000900	.....	.....	
12,000	60,000	.008150	.000850	.....	.....	
12,400	62,000	.009850	.001700	.....	.....	
12,800	64,000	.011200	.001350	.....	.....	
13,200	66,000	.013100	.001900	.....	.....	
13,600	68,000	.014750	.001650	.....	.....	
14,000	70,000	.016750	.002000	.....	.....	
14,400	72,000	.018600	.001850	.....	.....	
14,800	74,000	.020800	.002200	.....	.....	
15,200	76,000	.023100	.002300	.....	.....	
15,600	78,000	.025600	.002500	.....	.....	
16,000	80,000	.028500	.002900	.....	.....	
16,400	82,000	.031050	.002550	.....	.....	
16,800	84,000	.034800	.003750	.....	.....	
17,200	86,000	.038500	.003700	.....	.....	
17,600	88,500	.042850	.004350	.....	.....	
18,000	90,000	.048250	.005400	.....	.....	
18,400	92,000	.050000	.007700	.....	.....	
18,800	94,000	.0600	.0040	.....	.....	
19,200	96,000	.0750	.0150	.....	.....	
19,520	97,600	.1350	.0600	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8691
Tensile strength per square inch of original section	pounds..	97,600
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		at middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		".21*, ".16

No. 585.

Marks, $\frac{32\ B\ B_2}{T_2}$
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	— .000050	— .000050	
12,500	25,000	.000700	.000150	— .000050	0.	
15,000	30,000	.000850	.000150	— .000050	0.	
17,500	35,000	.001000	.000150	— .000050	0.	
20,000	40,000	.001150	.000100	— .000050	0.	
22,500	45,000	.001300	.000150	— .000050	0.	
23,000	46,000	.001300	0.	.....	.....	
23,500	47,000	.001350	.000050	.....	.....	
24,000	48,000	.001450	.000100	.....	.....	
24,500	49,000	.001500	.000050	.....	.....	
25,000	50,000	.001500	0.	— .000050	.....	
25,500	51,000	.001600	0.	.....	.....	
26,000	52,000	.001600	.000100	.....	.....	Elastic limit.
26,500	53,000	.001800	.000200	.....	.....	
27,000	54,000	.002100	.000300	.....	.....	
27,500	55,000	.002400	.000300	.000650	.000700	
28,000	56,000	.002850	.000450	.....	.....	
28,500	57,000	.003450	.000600	.....	.....	
29,000	58,000	.004000	.000550	.....	.....	
29,500	59,000	.004750	.000750	.....	.....	
30,000	60,000	.005250	.000500	.003300	.002650	
52,300	104,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	52,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds..	104,600
Manner of failure		triple flexure

No. 2064.

Marks, $^{32\ B\ B_4}_{T,}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	—.000050	—.000050	
2,000	10,000	.000200	.000100	—.000050	0.	
3,000	15,000	.000300	.000100	—.000050	0.	
4,000	20,000	.000400	.000100	—.000050	0.	
5,000	25,000	.000600	.000200	—.000050	0.	
6,000	30,000	.000700	.000100	—.000050	0.	
7,000	35,000	.000950	.000250	—.000050	0.	
8,000	40,000	.001100	.000150	—.000050	0.	
9,000	45,000	.001250	.000150	—.000050	0.	
9,200	46,000	.001300	.000050	.....	.....	
9,400	47,000	.001400	.000100	.....	.....	
9,600	48,000	.001450	.000050	.....	.....	
9,800	49,000	.001450	0.	.....	.....	
10,000	50,000	.001500	.000050	0.	.....	
10,200	51,000	.001550	.000050	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001700	.000100	.....	.....	Elastic limit.
10,800	54,000	.002000	.000300	.....	.....	
11,000	55,000	.002350	.000350	.....	.....	
11,200	56,000	.002850	.000500	.....	.....	
11,400	57,000	.003450	.000600	.....	.....	
11,600	58,000	.004050	.000600	.....	.....	
11,800	59,000	.004650	.000600	.....	.....	
12,000	60,000	.005350	.000700	.....	.....	
12,400	62,000	.006800	.001450	.....	.....	
12,800	64,000	.008350	.001550	.....	.....	
13,200	66,000	.009350	.001000	.....	.....	
13,600	68,000	.011400	.002050	.....	.....	
14,000	70,000	.013150	.001750	.....	.....	
14,400	72,000	.014900	.001750	.....	.....	
14,800	74,000	.016700	.001800	.....	.....	
15,200	76,000	.018700	.002000	.....	.....	
15,600	78,000	.020700	.002000	.....	.....	
16,000	80,000	.023150	.002450	.....	.....	
16,400	82,000	.026000	.002850	.....	.....	
16,800	84,000	.028500	.002500	.....	.....	
17,200	86,000	.031550	.003050	.....	.....	
17,600	88,000	.034250	.002700	.....	.....	
18,000	90,000	.038500	.004250	.....	.....	
18,400	92,000	.043000	.004500	.....	.....	
18,800	94,000	.047900	.004900	.....	.....	
19,200	96,000	.055100	.007200	.....	.....	
19,600	98,000	.066000	.010900	.....	.....	
20,000	100,000	.1000	.0340	.....	.....	
20,060	100,300	.1050	.0050	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,300
Elastic limit per square inch of original section	do ..	53,000
Elongation per inch after rupture	inch..	0.1600
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34
Position of rupture		".2 from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		".20", ".12

No. 596.

Marks, $\frac{32\ BB}{T}$.
Length, 4″.00
Diameter, ″.797.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0	.....	
5,000	10,000	.000250	.000150	0	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	—.000050	—.000050	
12,500	25,000	.000700	.000150	—.000050	0.	
15,000	30,000	.000850	.000150	—.000050	0.	
17,500	35,000	.001000	.000150	—.000050	0.	
20,000	40,000	.001150	.000150	—.000050	0.	
22,500	45,000	.001300	.000150	—.000050	0.	
23,000	46,000	.001350	.000050	.....	.....	
23,500	47,000	.001350	0.	.....	.....	
24,000	48,000	.001400	.000050	.....	.....	
24,500	49,000	.001450	.000050	.....	.....	
25,000	50,000	.001500	.000050	—.000050	0.	
25,500	51,000	.001500	0.	.....	.....	
26,000	52,000	.001550	.000050	.....	.....	
26,500	53,000	.001600	.000050	.....	.....	Elastic limit.
27,000	54,000	.001800	.000200	.....	.....	
27,500	55,000	.002150	.000350	.000350	.000400	
28,000	56,000	.002550	.000400	.....	.....	
28,500	57,000	.003050	.000500	.....	.....	
29,000	58,000	.003550	.000500	.....	.....	
29,500	59,000	.004250	.000700	.....	.....	
30,000	60,000	.004750	.000500	.002750	.002400	
53,600	107,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	53,0[illegible]
Compression per inch under stress at elastic limit	inch..	0.0016[illegible]
Ultimate strength per square inch of original section	pounds..	107,20[illegible]
Manner of failure		triple flexure

No. 2056.

Marks, $^{32\ B\ B_5}_{T_1}$
Diameter, ″.504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000300	.000100	0.	.....	
3,000	15,000	.000400	.000100	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	
10,000	50,000	.001700	.000050	.000050	.000050	Elastic limit
10,200	51,000	.002100	.000400	.....	.....	
10,400	52,000	.002500	.000400	.....	.....	
10,600	53,000	.003100	.000600	.....	.....	
10,800	54,000	.003600	.000500	.....	.....	
11,000	55,000	.004550	.000950	.....	.....	
11,200	56,000	.005100	.000550	.....	.....	
11,400	57,000	.006100	.001000	.....	.....	
11,600	58,000	.006650	.000550	.....	.....	
11,800	59,000	.007600	.000950	.....	.....	
12,000	60,000	.008250	.000650	.....	.....	
12,400	62,000	.009500	.001250	.....	.....	
12,800	64,000	.011900	.002400	.....	.....	
13,200	66,000	.013000	.001100	.....	.....	
13,600	68,000	.014000	.001000	.....	.....	
14,000	70,000	.015750	.001750	.....	.....	
14,400	72,000	.018000	.002250	.....	.....	
14,800	74,000	.021050	.003050	.....	.....	
15,200	76,000	.023250	.002200	.....	.....	
15,600	78,000	.025500	.002250	.....	.....	
16,000	80,000	.028550	.003050	.....	.....	
16,400	82,000	.031750	.003200	.....	.....	
16,800	84,000	.034700	.002950	.....	.....	
17,200	86,000	.038500	.003800	.....	.....	
17,600	88,000	.042400	.003900	.....	.....	
18,000	90,000	.048500	.006100	.....	.....	
18,400	92,000	.055250	.006750	.....	.....	
18,800	94,000	.061000	.005750	.....	.....	
19,200	96,000	.0700	.0060	.....	.....	
19,560	97,800	.1250	.0550	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8555
Tensile strength per square inch of original section	pounds..	97,800
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		½ inch from neck
Character of broken surface		granular; dull center
Elongation of inch sections		″.24*, ″.13

No. 586.

Marks, $^{32\,B\,B_5}_{T_2}$
Length, 3″.998.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	0.	.....	—.000100	—.000100	
5,000	10,000	.000150	.000150	—.000100	0.	
7,500	15,000	.000300	.000150	—.000100	0.	
10,000	20,000	.000500	.000200	—.000100	0.	
12,500	25,000	.000650	.000150	—.000100	0.	
15,000	30,000	.000850	.000200	—.000100	0.	
17,500	35,000	.001000	.000150	—.000050	—.000050	
20,000	40,000	.001250	.000250	—.000050	0.	
22,500	45,000	.001450	.000200	0.	.000050	
23,000	46,000	.001500	.000050	.....	.....	
23,500	47,000	.001500	0.	.....	.....	
24,000	48,000	.001550	.000050	.....	.....	
24,500	49,000	.001600	.000050	.....	.....	
25,000	50,000	.001650	.000050	.000100	.000100	
25,500	51,000	.001750	.000100	.....	.....	
26,000	52,000	.001800	.000050	.....	.....	Elastic limit.
26,500	53,000	.001950	.000150	.....	.....	
27,000	54,000	.002250	.000300	.....	.....	
27,500	55,000	.002650	.000400	.000900	.000800	
28,000	56,000	.003150	.000500	.....	.....	
28,500	57,000	.003650	.000500	.....	.....	
29,000	58,000	.004300	.000650	.....	.....	
29,500	59,000	.005150	.000860	.....	.....	
30,000	60,000	.005800	.000650	.003750	.002850	
54,100	108,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	52,000
Compression per inch under stress at elastic limit	inch..	0.001800
Ultimate strength per square inch of original section	pounds..	108,200
Manner of failure		triple flexure

No. 2057.

Marks, $\frac{32\ B\ B_8}{T,}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*ounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	C.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	—.000050	—.000050	
2,000	10,000	.000200	.000150	—.000050	0.	
3,000	15,000	.000350	.000150	—.000050	0.	
4,000	20,000	.000550	.000200	—.000050	0.	
5,000	25,000	.000700	.000150	—.000050	0.	
6,000	30,000	.000900	.000200	—.000050	0.	
7,000	35,000	.001100	.000200	—.000050	0.	
8,000	40,000	.001300	.000200	—.000050	0.	
9,000	45,000	.001400	.000100			
9,200	46,000	.001450	.000050			
9,400	47,000	.001450	0.			
9,600	48,000	.001500	.000050			
9,800	49,000	.001550	.000050			
10,000	50,000	.001600	.000050	0.		
10,200	51,000	.001650	.000050			
10,400	52,000	.001700	.000050			
10,600	53,000	.001700	0.			
10,800	54,000	.001750	.000050			Elastic limit.
11,000	55,000	.001950	.000200			
11,200	56,000	.002150	.000200			
11,400	57,000	.002550	.000100			
11,600	58,000	.002850	.000300			
11,800	59,000	.003350	.000500			
12,000	60,000	.004050	.000700			
12,400	62,000	.005350	.001300			
12,800	64,000	.006600	.001250			
13,200	66,000	.008050	.001450			
13,600	68,000	.009350	.001300			
14,000	70,000	.010500	.001150			
14,400	72,000	.012100	.001600			
14,800	74,000	.013900	.001800			
15,200	76,000	.015400	.001500			
15,600	78,000	.017100	.001700			
16,000	80,000	.019000	.001900			
16,400	82,000	.020650	.001650			
16,800	84,000	.023050	.002400			
17,200	86,000	.025300	.002250			
17,600	88,000	.027550	.002250			
18,000	90,000	.029900	.002350			
18,400	92,000	.032500	.002600			
18,800	94,000	.035600	.003100			
19,200	96,000	.040000	.004400			
19,600	98,000	.044250	.004250			
20,000	100,000	.050000	.005750			
20,400	102,000	.056550	.006550			
20,800	104,000	.0650	.008450			
21,200	106,000	.0800	.0150			
21,250	106,750	.1050	.0250			Tensile strength.

General summary.

Specific gravity		7.8575
Tensile strength per square inch of original section	pounds..	106,750
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1750
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		at middle of stem
Character of broken surface		granular; dull eccentric spot
Elongation of inch sections		".20", ".15

No. 587.

Marks, $\frac{32\ B\ B_8}{T_2}$
Length, 3″.996.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000050	.000050	0.	.....	
5,000	10,000	.000150	.000100	0.	.....	
7,500	15,000	.000300	.000150	0.	.....	
10,000	20,000	.000450	.000150	0.	.....	
12,500	25,000	.000600	.000150	0.	.....	
15,000	30,000	.000750	.000150	0.	.....	
17,500	35,000	.000900	.000150	0.	.....	
20,000	40,000	.001050	.000150	0.	.....	
22,500	45,000	.001250	.000200	0.	.....	
25,000	50,000	.001400	.000150	0.	.....	
25,500	51,000	.001400	0.	.....	.....	
26,000	52,000	.001450	.000050	.....	.....	
26,500	53,000	.001450	0.	.....	.....	
27,000	54,000	.001500	.000050	.....	.....	
27,500	55,000	.001500	0.	—.000150	—.000150	
28,000	56,000	.001500	0.	.....	.....	
28,500	57,000	.001500	0.	.....	.....	Elastic limit.
29,000	58,000	.001700	.000200	.....	.....	
29,500	59,000	.001800	.000100	.....	.....	
30,000	60,000	.002050	.000250	.000150	.000300	
30,500	61,000	.002250	.000200	.....	.....	
31,000	62,000	.002400	.000150	.....	.....	
31,500	63,000	.002600	.000200	.....	.....	
32,000	64,000	.003000	.000400	.....	.....	
32,500	65,000	.003350	.000350	.001250	.001100	
33,000	66,000	.003850	.000500	.....	.....	
33,500	67,000	.004400	.000550	.....	.....	
34,000	68,000	.004900	.000500	.....	.....	
34,500	69,000	.005350	.000450	.....	.....	
35,000	70,000	.005950	.000600	.003500	.002250	
56,600	113,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	57,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds..	113,200
Manner of failure		triple flexure

No. 2075.

Marks, $\frac{32\ B\ B_7}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000350	.000250	0.	.....	
3,000	15,000	.000600	.000250	0.	.....	
4,000	20,000	.000700	.000100	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001100	.000100	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001550	.000050	.....	.....	
9,600	48,000	.001550	0.	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	
10,000	50,000	.001650	.000050	0.	.....	Elastic limit.
10,200	51,000	.001850	.000200	.....	.....	
10,400	52,000	.002150	.000300	.....	.....	
10,600	53,000	.002750	.000600	.....	.....	
10,800	54,000	.003400	.000650	.....	.....	
11,000	55,000	.004250	.000850	.....	.....	
11,200	56,000	.005150	.000900	.....	.....	
11,400	57,000	.006050	.000900	.....	.....	
11,600	58,000	.006700	.000650	.....	.....	
11,800	59,000	.007600	.000900	.....	.....	
12,000	60,000	.008550	.000950	.....	.....	
12,400	62,000	.009700	.001150	.....	.....	
12,800	64,000	.011300	.001600	.....	.....	
13,200	66,000	.013400	.002100	.....	.....	
13,600	68,000	.015000	.001600	.....	.....	
14,000	70,000	.017050	.002050	.....	.....	
14,400	72,000	.019050	.002000	.....	.....	
14,800	74,000	.020950	.001900	.....	.....	
15,200	76,000	.023550	.002600	.....	.....	
15,600	78,000	.026000	.002450	.....	.....	
16,000	80,000	.029750	.003750	.....	.....	
16,400	82,000	.032500	.002750	.....	.....	
16,800	84,000	.036500	.004000	.....	.....	
17,200	86,000	.039900	.003400	.....	.....	
17,600	88,000	.044500	.004600	.....	.....	
18,000	90,000	.050750	.006250	.....	.....	
18,400	92,000	.058150	.007400	.....	.....	
18,800	94,000	.0800	.021850	.....	.....	
19,200	96,000	.1050	.0250	.....	.....	
19,280	96,300	.1250	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	96,300
Elastic limit per square inch of original section	do....	50,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do....	.001650
Reduction in diameter at point of rupture	do....	.105
Reduction in area after rupture, per centum of original section		37.1
Position of rupture	½ inch from middle of stem	
Character of broken surface	granular, dull center	
Elongation of inch sections	″.26*, ″.12	

No. 607.

Marks, $\frac{32\,B\,B_7}{T_2}$
Length, 4″.007.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	—.000050	—.000050	
15,000	30,000	.000800	.000100	—.000050	0.	
17,500	35,000	.000950	.000150	—.000100	—.000050	
20,000	40,000	.001050	.000100	—.000150	—.000050	
22,500	45,000	.001200	.000150	—.000200	—.000050	
23,000	46,000	.001250	.000050	.....	.....	
23,500	47,000	.001250	0.	.....	.....	
24,000	48,000	.001250	0.	.....	.....	
24,500	49,000	.001300	.000050	.....	.....	
25,000	50,000	.001300	0.	—.000250	—.000050	
25,500	51,000	.001300	0.	.....	.....	
26,000	52,000	.001350	.000050	.....	.....	Elastic limit.
26,500	53,000	.001750	.000400	.....	.....	
27,000	54,000	.002250	.000500	.....	.....	
27,500	55,000	.003000	.000750	.001200	.001450	
28,000	56,000	.003750	.000750	.....	.....	
28,500	57,000	.004500	.000750	.....	.....	
29,000	58,000	.005600	.001100	.....	.....	
29,500	59,000	.006550	.000950	.....	.....	
30,000	60,000	.007500	.000950	.005200	.004000	
52,700	105,400	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	52,000
Compression per inch under stress at elastic limit	inch..	0.001350
Ultimate strength per square inch of original section	pounds..	105,400
Manner of failure		triple flexure

No. 2043.

Marks, $\frac{32\ B\ B_8}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000350	.000250	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001450	.000200	0.	.....	
9,200	46,000	.001450	0.	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001500	0.	.....	.....	
9,800	49,000	.001550	.000050	.....	.....	
10,000	50,000	.001600	.000050	0.	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001750	.000100	.....	.....	
10,600	53,000	.001850	.000100	.....	.....	
10,800	54,000	.001900	.000050	.....	.....	Elastic limit.
11,000	55,000	.002200	.000300	.000300	.000300	
11,200	56,000	.002400	.000200	.....	.....	
11,400	57,000	.003000	.000600	.....	.....	
11,600	58,000	.003600	.000600	.....	.....	
11,800	59,000	.004500	.000900	.....	.....	
12,000	60,000	.005100	.000600	.....	.....	
12,400	62,000	.006500	.001400	.....	.....	
12,800	64,000	.008200	.001700	.....	.....	
13,200	66,000	.010000	.001800	.....	.....	
13,600	68,000	.011500	.001500	.....	.....	
14,000	70,000	.013150	.001650	.....	.....	
14,400	72,000	.015000	.001850	.....	.....	
14,800	74,000	.016700	.001700	.....	.....	
15,200	76,000	.018550	.001850	.....	.....	
15,600	78,000	.020550	.002000	.....	.....	
16,000	80,000	.023100	.002550	.....	.....	
16,400	82,000	.025550	.002450	.....	.....	
16,800	84,000	.028300	.002750	.....	.....	
17,200	86,000	.031250	.002950	.....	.....	
17,600	88,000	.034500	.003250	.....	.....	
18,000	90,000	.038400	.003900	.....	.....	
18,400	92,000	.042850	.004450	.....	.....	
18,800	94,000	.047550	.004700	.....	.....	
19,200	96,000	.0550	.007450	.....	.....	
19,600	98,000	.0550	.0100	.....	.....	
20,000	100,000	.0850	.0200	.....	.....	
20,300	101,500	.1050	.0200	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8603
Tensile strength per square inch of original section	pounds..	101,500
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of ruptnre	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		¼ inch from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		".23*, ".14

No. 580.

Marks, $\frac{32\ B\ B_8}{T_2}$
Length, 3″.998.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000600	.000100	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001050	.000150	0.	.....	
20,000	40,000	.001250	.000200	0.	.....	
22,500	45,000	.001350	.000100	—.000050	—.000050	
23,000	46,000	.001350	0.	.....	.....	
23,500	47,000	.001400	.000050	.....	.....	
24,000	48,000	.001450	.000050	.....	.....	
24,500	49,000	.001500	.000050	.....	.....	
25,000	50,000	.001500	0.	—.000050	0.	
25,500	51,000	.001550	.000050	.....	.....	
26,000	52,000	.001600	.000050	.....	.....	
26,500	53,000	.001650	.000050	.....	.....	
27,000	54,000	.001750	.000100	.....	.....	Elastic limit.
27,500	55,000	.001950	.000200	.000250	.000300	
28,000	56,000	.002400	.000450	.....	.....	
28,500	57,000	.002750	.000350	.....	.....	
29,000	58,000	.003500	.000750	.....	.....	
29,500	59,000	.004250	.000750	.....	.....	
30,000	60,000	.005050	.000800	.003100	.002850	
54,600	109,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.001750
Ultimate strength per square inch of original section	pounds..	109,200
Manner of failure		triple flexure

No. 2058.

Marks, $^{32\ B\ B_9}_{T_1}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001200	.000250	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001550	.000200	0.	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001600	0.	.....	.....	
9,600	48,000	.001650	.000050	.....	.....	
9,800	49,000	.001650	0.	.....	.....	
10,000	50,000	.001700	.000050	0.	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	
10,600	53,000	.001800	0.	.....	.....	
10,800	54,000	.001850	.000050	.....	.....	
11,000	55,000	.001950	.000100	.000050	.000050	Elastic limit.
11,200	56,000	.002150	.000200	.....	.....	
11,400	57,000	.002450	.000300	.....	.....	
11,600	58,000	.002900	.000450	.....	.....	
11,800	59,000	.003450	.000550	.....	.....	
12,000	60,000	.004050	.000600	.....	.....	
12,400	62,000	.005650	.001600	.....	.....	
12,800	64,000	.006850	.001200	.....	.....	
13,200	66,000	.008550	.001700	.....	.....	
13,600	68,000	.010300	.001750	.....	.....	
14,000	70,000	.011650	.001350	.....	.....	
14,400	72,000	.013300	.001650	.....	.....	
14,800	74,000	.014800	.001500	.....	.....	
15,200	76,000	.016750	.001950	.....	.....	
15,600	78,000	.018550	.001800	.....	.....	
16,000	80,000	.020600	.002050	.....	.....	
16,400	82,000	.022900	.002300	.....	.....	
16,800	84,000	.025100	.002200	.....	.....	
17,200	86,000	.028300	.003200	.....	.....	
17,600	88,000	.030850	.002550	.....	.....	
18,000	90,000	.034250	.003400	.....	.....	
18,400	92,000	.037900	.003650	.....	.....	
18,800	94,000	.041500	.003600	.....	.....	
19,200	96,000	.046600	.005100	.....	.....	
19,600	98,000	.053000	.006400	.....	.....	
20,000	100,000	.061000	.008000	.....	.....	
20,400	102,000	.073250	.012250	.....	.....	
20,800	104,000	.1000	.026750	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8649
Tensile strength per square inch of original section	pounds..	104,000
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001950
Reduction in diameter at point of rupture	do...	.084
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		$\frac{1}{4}$ inch from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		".23*, ".13

No. 588.

Marks, $\frac{32\ B\ B_9}{T_2}$
Length, 4″.002.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000650	.000150	0.	.....	
12,500	25,000	.000750	.000100	0.	.....	
15,000	30,000	.000950	.000200	0.	.....	
17,500	35,000	.001100	.000150	0.	.....	
20,000	40,000	.001300	.000200	0.	.....	
22,500	45,000	.001400	.000100	0.	.....	
23,000	46,000	.001450	.000050	.....	.....	
23,500	47,000	.001500	.000050	.....	.....	
24,000	48,000	.001500	0.	.....	.....	
24,500	49,000	.001550	.000050	.....	.....	
25,000	50,000	.001550	0.	0.	.....	
25,500	51,000	.001600	.000050	.....	.....	
26,000	52,000	.001600	0.	.....	.....	
26,500	53,000	.001650	.000050	.....	.....	
27,000	54,000	.001750	.000050	.....	.....	
27,500	55,000	.001750	.000050	.000100	.000100	Elastic limit.
28,000	56,000	.001900	.000150	.....	.....	
28,500	57,000	.002050	.000150	.....	.....	
29,000	58,000	.002300	.000250	.....	.....	
29,500	59,000	.002750	.000450	.....	.....	
30,000	60,000	.003250	.000500	.001450	.001350	
30,500	61,000	.003800	.000550	.....	.....	
31,000	62,000	.004500	.000700	.....	.....	
31,500	63,000	.005150	.000650	.....	.....	
32,000	64,000	.005900	.000750	.....	.....	
32,500	65,000	.006750	.000850	.001500	.003050	
55,400	110,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	55,000
Compression per inch under stress at elastic limit	inch..	0.001750
Ultimate strength per square inch of original section	pounds..	110,800
Manner of failure		triple flexure

No. 2059.

Marks, $\frac{32\ B\ B_{10}}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001450	.000100	0.	.....	
9,200	46,000	.001500	.000050	.....	.....	
9,400	47,000	.001500	0.	.....	.....	
9,600	48,000	.001550	.000050	.....	.....	
9,800	49,000	.001600	.000050	.....	.....	Elastic limit.
10,000	50,000	.001750	.000150	.000100	.000100	
10,200	51,000	.001900	.000150	.....	.....	
10,400	52,000	.002100	.000200	.....	.....	
10,600	53,000	.002400	.000300	.....	.....	
10,800	54,000	.002800	.000400	.....	.....	
11,000	55,000	.003150	.000350	.....	.....	
11,200	56,000	.003650	.000500	.....	.....	
11,400	57,000	.004100	.000500	.....	.....	
11,600	58,000	.004800	.000650	.....	.....	
11,800	59,000	.005600	.000800	.....	.....	
12,000	60,000	.006250	.000650	.....	.....	
12,400	62,000	.007250	.001500	.....	.....	
12,800	64,000	.009350	.001600	.....	.....	
13,200	66,000	.011000	.001650	.....	.....	
13,600	68,000	.012750	.001750	.....	.....	
14,000	70,000	.014250	.001500	.....	.....	
14,400	72,000	.016250	.002000	.....	.....	
14,800	74,000	.018150	.001900	.....	.....	
15,200	76,000	.020000	.001850	.....	.....	
15,600	78,000	.022100	.002100	.....	.....	
16,000	80,000	.024250	.002150	.....	.....	
16,400	82,000	.026750	.002500	.....	.....	
16,800	84,000	.029600	.002850	.....	.....	
17,200	86,000	.032300	.002700	.....	.....	
17,600	88,000	.035950	.003650	.....	.....	
18,000	90,000	.039300	.003350	.....	.....	
18,400	92,000	.043750	.004450	.....	.....	
18,800	94,000	.049500	.005750	.....	.....	
19,200	96,000	.057000	.007500	.....	.....	
19,600	98,000	.066500	.009500	.....	.....	
20,000	100,000	.0900	.0233	.....	.....	
20,120	100,600	.1150	.0250	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8578
Tensile strength per square inch of original section	pounds..	100,600
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.1550
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		″.4 from neck
Character of broken surface	granular; dull center	
Elongation of inch sections		″.23*, ″.09

No. 589.

Marks, $\frac{32\ B\ B_{10}}{T_2}$
Length, 3".999.
Diameter, ".798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	−.000050	−.000050	
10,000	20,000	.000600	.000200	−.000056	0.	
12,500	25,000	.000750	.000150	−.000050	0.	
15,000	30,000	.000900	.000150	0.	.000056	
17,500	35,000	.001100	.000200	0.	0.	
20,000	40,000	.001250	.000150	0.	0.	
20,500	41,000	.001300	.000050	.....	.....	
21,000	42,000	.001300	0.	.....	.....	
21,500	43,000	.001350	.000050	.....	.....	
22,000	44,000	.001400	.000050	.....	.....	
22,500	45,000	.001450	.000050	0.	.....	
23,000	46,000	.001500	.000050	.....	.....	
23,500	47,000	.001550	.000050	.....	.....	
24,000	48,000	.001650	.000100	.....	.....	
24,500	49,000	.001750	.000100	.....	.....	Elastic limit.
25,000	50,000	.001900	.000150	.000250	.000250	
25,500	51,000	.002350	.000450	.....	.....	
26,000	52,000	.003000	.000650	.....	.....	
26,500	53,000	.003700	.000700	.....	.....	
27,000	54,000	.004500	.000800	.....	.....	
27,500	55,000	.005250	.000750	.003300	.003050	
55,400	110,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	49,0[illegible]
Compression per inch under stress at elastic limit	inch..	0.0017[illegible]
Ultimate strength per square inch of original section	pounds..	110,8[illegible]
Manner of failure		triple flexure

No. 2065.

Marks, $\frac{32\ B\ B_{II}}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	.000050	.000050	
2,000	10,000	.000450	.000300	.000100	.000050	
3,000	15,000	.000600	.000150	.000100	0.	
4,000	20,000	.000800	.000200	.000100	0.	
5,000	25,000	.000900	.000100	.000100	0.	
6,000	30,000	.001050	.000150	.000100	0.	
7,000	35,000	.001200	.000150	.000100	0.	
8,000	40,000	.001350	.000150	.000100	0.	
9,000	45,000	.001500	.000150	.000100	0.	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001650	.000100	.....	.....	
9,600	48,000	.001700	.000050	.....	.....	
9,800	49,000	.001750	.000050	.....	.....	
10,000	50,000	.001800	.000050	.000150	.000050	
10,200	51,000	.001850	.000050	.....	.....	
10,400	52,000	.001900	.000050	.....	.....	
10,600	53,000	.002000	.000100	.....	.....	
10,800	54,000	.002050	.000050	.....	.....	
11,000	55,000	.002150	.000100	.000200	.000050	Elastic limit.
11,200	56,000	.002400	.000250	.....	.....	
11,400	57,000	.002600	.000200	.....	.....	
11,600	58,000	.003100	.000500	.....	.....	
11,800	59,000	.003650	.000550	.....	.....	
12,000	60,000	.004150	.000500	.....	.....	
12,400	62,000	.005600	.001450	.....	.....	
12,800	64,000	.006900	.001300	.....	.....	
13,200	66,000	.008350	.001450	.....	.....	
13,600	68,000	.009850	.001500	.....	.....	
14,000	70,000	.011200	.001350	.....	.....	
14,400	72,000	.012750	.001650	.....	.....	
14,800	74,000	.014350	.001600	.....	.....	
15,200	76,000	.015950	.001600	.....	.....	
15,600	78,000	.017650	.001700	.....	.....	
16,000	80,000	.019300	.001650	.....	.....	
16,400	82,000	.021500	.002200	.....	.....	
16,800	84,000	.023600	.002100	.....	.....	
17,200	86,000	.026000	.002400	.....	.....	
17,600	88,000	.028250	.002250	.....	.....	
18,000	90,000	.031000	.002750	.....	.....	
18,400	92,000	.033550	.002550	.....	.....	
18,800	94,000	.037500	.003950	.....	.....	
19,200	96,000	.041100	.003600	.....	.....	
19,600	98,000	.045600	.004500	.....	.....	
20,000	100,000	.051050	.005450	.....	.....	
20,400	102,000	.057600	.006550	.....	.....	
20,800	104,000	.0700	.0124	.....	.....	
21,200	106,000	.0300	.0200	.....	.....	
21,340	106,700	.1150	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds...	106,700
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch...	0.1750
Elongation per inch under strain at elastic limit	do...	.002150
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		″.1 from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		″.20*, ″.15

No. 597.

Marks, $^{32\ B\ Bu}_{T_r}$
Length, 3″.999.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001050	.000200	0.	.....	
20,000	40,000	.001200	.000150	0.	.....	
22,500	45,000	.001300	.000100	0.	.....	
23,000	46,000	.001350	.000050	.....	.....	
23,500	47,000	.001350	0.	.....	.....	
24,000	48,000	.001400	.000050	.....	.....	
24,500	49,000	.001400	0.	.....	.....	
25,000	50,000	.001500	.000100	0.	.....	
25,500	51,000	.001500	0.	.....	.....	
26,000	52,000	.001500	0.	.....	.....	Elastic limit.
26,500	53,000	.001400	.000100	.....	.....	
27,000	54,000	.001350	.000050	.....	.....	
27,500	55,000	.001250	.000100	—.000400	—.000400	
28,000	56,000	.001150	.000100	.....	.....	
28,500	57,000	.001150	0.	.....	.....	
29,000	58,000	.001150	0.	.....	.....	
29,500	59,000	.001200	.000050	.....	.....	
30,000	60,000	.001300	.000100	—.000600	—.000200	
30,500	61,000	.001500	.000200	.....	.....	
31,000	62,000	.001700	.000200	.....	.....	
31,500	63,000	.001850	.000150	.....	.....	
32,000	64,000	.002050	.000200	.....	.....	
32,500	65,000	.002350	.000300	.000350	.000950	
33,000	66,000	.002850	.000500	.....	.....	
33,500	67,000	.003150	.000300	.....	.....	
34,000	68,000	.003650	.000500	.....	.....	
34,500	69,000	.004300	.000650	.....	.....	
35,000	70,000	.004850	.000550	.002400	.002050	
56,100	112,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	52,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds..	112,200
Manner of failure		triple flexure

No. 2

Marks, $\frac{32\ B\ B_{12}}{T}$

Diameter, .505.

Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Pe
Total.	Per square inch.			
Pounds.	Pounds.	Inch.	Inch.	
200	1, 000	0.	0.	0.
1, 000	5, 000	.000100	.000100	0.
2, 000	10, 000	.000200	.000100	0.
3, 000	15, 000	.000300	.000100	0.
4, 000	20, 000	.000550	.000250	0.
5, 000	25, 000	.000650	.000100	0.
6, 000	30, 000	.000900	.000250	0.
7, 000	35, 000	.001050	.000150	0.
8, 000	40, 000	.001200	.000150	0.
9, 000	45, 000	.001400	.000200	0.
9, 200	46, 000	.001400	0.	...
9, 400	47, 000	.001450	.000050	...
9, 600	48, 000	.001500	.000050	...
9, 800	49, 000	.001500	0.	...
10, 000	50, 000	.001550	.000050	0.
10, 200	51, 000	.001650	.000100	...
10, 400	52, 000	.001750	.000100	...
10, 600	53, 000	.002050	.000300	...
10, 800	54, 000	.002450	.000400	...
11, 000	55, 000	.003000	.000550	...
11, 200	56, 000	.003600	.000600	...
11, 400	57, 000	.004150	.000550	...
11, 600	58, 000	.005100	.000950	...
11, 800	59, 000	.005800	.000700	...
12, 000	60, 000	.006600	.000800	...
12, 200	61, 000	.008100	.001500	...
12, 400	62, 000	.009600	.001500	...
12, 600	63, 000	.011200	.001600	...
12, 800	64, 000	.013100	.001900	...
13, 000	65, 000	.014900	.001800	...
13, 200	66, 000	.016600	.001700	...
13, 400	67, 000	.018600	.002000	...
13, 600	68, 000	.020600	.002000	...
13, 800	69, 000	.023000	.002400	...
14, 000	70, 000	.025400	.002400	...
14, 200	71, 000	.028000	.002600	...
14, 400	72, 000	.031000	.003000	...
14, 600	73, 000	.034500	.003500	...
14, 800	74, 000	.037600	.003100	...
15, 000	75, 000	.042250	.004650	...
15, 200	76, 000	.047250	.005000	...
15, 400	77, 000	.054000	.006750	...
15, 600	78, 000	.064250	.010250	...
15, 800	79, 000	.0850	.020750	...
16, 000	80, 000	.1200	.0350	...
16, 200	81, 000			
16, 400	82, 000			
16, 600	83, 000			
16, 800	84, 000			
17, 000	85, 000			
17, 200	86, 000			
17, 400	87, 000			
17, 600	88, 000			
17, 800	89, 000			
18, 000	90, 000			
18, 200	91, 000			
18, 400	92, 000			
18, 600	93, 000			
18, 800	94, 000			
19, 000	95, 000			
19, 200	96, 000			
19, 400	97, 000			
19, 600	98, 000			
19, 820	99, 100			

General su

Tensile strength per square inch of original section ..
Elastic limit per square inch of original section .....
Elongation per inch after rupture .....
Elongation per inch under strain at elastic limit.....
Elongation per inch in diameter at point of rupture.....
Reduction in diameter at point of rupture .....
Reduction in area after rupture, per centum of origi
Position of rupture .....
Character of broken surface .....
Elongation of inch sections.....

No. 598.

Marks, $\frac{32\ B\ B_{12}}{T_2}$
Length, 3″.995.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000600	.000100	0.	.....	
12,500	25,000	.000800	.000200	0.	.....	
15,000	30,000	.000950	.000150	0.	.....	
17,500	35,000	.001150	.000200	0.	.....	
20,000	40,000	.001250	.000100	0.	.....	
20,500	41,000	.001300	.000050	.....	.....	
21,000	42,000	.001350	.000050	.....	.....	
21,500	43,000	.001400	.000050	.....	.....	
22,000	44,000	.001450	.000050	.....	.....	
22,500	45,000	.001450	0.	0.	.....	
23,000	46,000	.001500	.000050	.....	.....	
23,500	47,000	.001500	0.	.....	.....	
24,000	48,000	.001500	0.	.....	.....	
24,500	49,000	.001500	0.	.....	.....	
25,000	50,000	.001550	.000050	0.	.....	
25,500	51,000	.001600	.000050	.....	.....	Elastic limit.
26,000	52,000	.001700	.000100	.....	.....	
26,500	53,000	.001900	.000200	.....	.....	
27,000	54,000	.002250	.000350	.....	.....	
27,500	55,000	.002800	.000350	.000850	.000850	
28,000	56,000	.003000	.000400	.....	.....	
28,500	57,000	.003600	.000600	.....	.....	
29,000	58,000	.004200	.000600	.....	.....	
29,500	59,000	.004750	.000550	.....	.....	
30,000	60,000	.005300	.000550	.003250	.002400	
53,600	107,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	51,000
Compression per inch under stress at elastic limit	inch..	0.00160
Ultimate strength per square inch of original section	pounds..	107,200
Manner of failure		triple flexure

No. 2067.

Marks, $\frac{32\ B\ B_{13}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	—.000050	—.000050	
2,000	10,000	.000200	.000100	—.000050	0.	
3,000	15,000	.000350	.000150	—.000050	0.	
4,000	20,000	.000500	.000150	—.000050	0.	
5,000	25,000	.000600	.000100	—.000050	0.	
6,000	30,000	.000850	.000250	—.000050	0.	
7,000	35,000	.000950	.000100	—.000050	0.	
8,000	40,000	.001100	.000150	—.000050	0.	
9,000	45,000	.001300	.000200	—.000050	0.	
9,200	46,000	.001300	0.			
9,400	47,000	.001350	.000050			
9,600	48,000	.001350	0.			
9,800	49,000	.001400	.000050			
10,000	50,000	.001450	.000050	—.000050	0.	
10,200	51,000	.001500	.000050			
10,400	52,000	.001500	0.			
10,600	53,000	.001550	.000050			
10,800	54,000	.001600	.000050			
11,000	55,000	.001700	.000100	.000010	.000050	Elastic limit.
11,200	56,000	.001950	.000250			
11,400	57,000	.002300	.000350			
11,600	58,000	.002850	.000550			
11,800	59,000	.003450	.000600			
12,000	60,000	.004150	.000700			
12,400	62,000	.005600	.001450			
12,800	64,000	.006950	.001350			
13,200	66,000	.008600	.001650			
13,600	68,000	.010150	.001550			
14,000	70,000	.011750	.001600			
14,400	72,000	.013750	.002000			
14,800	74,000	.015400	.001650			
15,200	76,000	.017200	.001800			
15,600	78,000	.019300	.002100			
16,000	80,000	.021150	.001850			
16,400	82,000	.023700	.002550			
16,800	84,000	.026300	.002600			
17,200	86,000	.029000	.002700			
17,600	88,000	.032000	.003000			
18,000	90,000	.035400	.003400			
18,400	92,000	.039650	.004250			
18,800	94,000	.044050	.004400			
19,200	96,000	.050350	.006300			
19,600	98,000	.058400	.008050			
20,000	100,000	.0650	.0066			
20,300	101,500	.1050	.0400			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	101,500
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.1600
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		½ inch from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		".23", ".09

No. 599.

Marks, $\frac{32\,B\,B_{12}}{T_2}$
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	−.000050	−.000050	
15,000	30,000	.000900	.000200	−.000050	0.	
17,500	35,000	.001050	.000150	−.000050	0.	
20,000	40,000	.001200	.000150	−.000050	0.	
22,500	45,000	.001350	.000150	−.000050	0.	
23,000	46,000	.001350	0.	.....	.....	
23,500	47,000	.001400	.000050	.....	.....	
24,000	48,000	.001450	.000050	.....	.....	
24,500	49,000	.001500	.000050	.....	.....	
25,000	50,000	.001500	0.	−.000050	0.	
25,500	51,000	.001550	.00005[illegible]	.....	.....	
26,000	52,000	.001600	.00005	.....	.....	Elastic limit.
26,500	53,000	.001700	.000100	.....	.....	
27,000	54,000	.001800	.000100	.....	.....	
27,500	55,000	.002050	.000250	.000300	.000350	
28,000	56,000	.002500	.000450	.....	.....	
28,500	57,000	.003100	.000600	.....	.....	
29,000	58,000	.003700	.000600	.....	.....	
29,500	59,000	.004300	.000600	.....	.....	
30,000	60,000	.004850	.000550	.002750	.002450	
56,700	113,400	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	52,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds..	113,400
Manner of failure		triple flexure

No. 2069.

Marks, $\frac{32\ B\ B_{14}}{T_1}$

Diameter, ″.505.

Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1, 000	0.	0.	0.	0.	Initial load.
1, 000	5, 000	.000150	.000150	0.	.....	
2, 000	10, 000	.000350	.000200	0.	.....	
3, 000	15, 000	.000600	.000250	0.	.....	
4, 000	20, 000	.000750	.000150	0.	.....	
5, 000	25, 000	.000900	.000150	0.	.....	
6, 000	30, 000	.001000	.000100	0.	.....	
7, 000	35, 000	.001200	.000200	0.	.....	
8, 000	40, 000	.001350	.000150	0.	.....	
9, 000	45, 000	.001500	.000150	0.	.....	
9, 200	46, 000	.001550	.000050	.....	.....	
9, 400	47, 000	.001600	.000050	.....	.....	
9, 600	48, 000	.001650	.000050	.....	.....	
9, 800	49, 000	.001700	.000050	.....	.....	
10, 000	50, 000	.001750	.000050	.000050	.000050	
10, 200	51, 000	.001800	.000050	.....	.....	
10, 400	52, 000	.001900	.000100	.....	.....	
10, 600	53, 000	.001950	.000050	.....	.....	
10, 800	54, 000	.002050	.000100	.000250	.000200	Elastic limit.
11, 000	55, 000	.002200	.000150	.....	.....	
11, 200	56, 000	.002450	.000250	.....	.....	
11, 400	57, 000	.002800	.000350	.....	.....	
11, 600	58, 000	.003300	.000500	.....	.....	
11, 800	59, 000	.003800	.000500	.....	.....	
12, 000	60, 000	.004750	.000950	.....	.....	
12, 400	62, 000	.006150	.001400	.....	.....	
12, 800	64, 000	.007600	.091450	.....	.....	
13, 200	66, 000	.009150	.001550	.....	.....	
13, 600	68, 000	.010750	.001600	.....	.....	
14, 000	70, 000	.012600	.001850	.....	.....	
14, 400	72, 000	.014250	.001650	.....	.....	
14, 800	74, 000	.016000	.001750	.....	.....	
15, 200	76, 000	.018100	.002100	.....	.....	
15, 600	78, 000	.020000	.001900	.....	.....	
16, 000	80, 000	.022250	.002250	.....	.....	
16, 400	82, 000	.024600	.002350	.....	.....	
16, 800	84, 000	.027000	.002400	.....	.....	
17, 200	86, 000	.030000	.003000	.....	.....	
17, 600	88, 000	.033250	.003750	.....	.....	
18, 000	90, 000	.036750	.003500	.....	.....	
18, 400	92, 000	.041000	.004250	.....	.....	
18, 800	94, 000	.046500	.005500	.....	.....	
19, 200	96, 000	.053500	.007000	.....	.....	
19, 600	98, 000	.061500	.008000	.....	.....	
20, 000	100, 000	.0750	.0135	.....	.....	
20, 280	101, 400	.1000	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section ..... pounds.. 10
Elastic limit per square inch of original section ..... do... 5
Elongation per inch after rupture ..... inch . 0.
Elongation per inch under strain at elastic limit ..... do... .0
Reduction in diameter at point of rupture ..... do...
Reduction in area after rupture, per centum of original section .....
Position of rupture ..... ¼ inch from middle of
Character of broken surface ..... granular; dull c
Elongation of inch sections ..... ″.22″,

No. 601.

Marks, $\frac{32\ B\ B_{14}}{T_3}$
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000600	.000150	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000900	.000150	—.000050	—.000050	
17,500	35,000	.001050	.000150	—.000100	—.000050	
20,000	40,000	.001250	.000200	—.000100	0.	
22,500	45,000	.001350	.000100	—.000100	0.	
25,000	50,000	.001500	.000150	—.000100	0.	
25,500	51,000	.001500	0.	.....	.....	
26,000	52,000	.001500	0.	.....	.....	
26,500	53,000	.001500	0.	.....	.....	
27,000	54,000	.001500	0.	.....	.....	
27,500	55,000	.001500	0.	—.000150	—.000050	
28,000	56,000	.001550	.000050	.....	.....	
28,500	57,000	.001600	.000050	.....	.....	Elastic limit.
29,000	58,000	.001800	.000200	.....	.....	
29,500	59,000	.002050	.000250	.....	.....	
30,000	60,000	.002550	.000500	.000700	.000850	
30,500	61,000	.003050	.000500	.....	.....	
31,000	62,000	.003750	.000700	.....	.....	
31,500	63,000	.004400	.000650	.....	.....	
32,000	64,000	.005250	.000850	.....	.....	
32,500	65,000	.006000	.000750	.....	.....	
55,900	111,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	57,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds..	111,800
Manner of failure		triple flexure

No. 2070.

Marks, $\frac{32\ B\ B_{15}}{T_1}$
Diameter, $\frac{11}{16}$".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	Pounds.	Inch.	Inch.	Inch.	Inch.	
200	1,000	0.	0.	0.	.....	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001050	.000200	0.	.....	
8,000	40,000	.001200	.000150	0.	.....	
9,000	45,000	.001300	.000100	0.	.....	
9,200	46,000	.001350	.000050	.....	.....	
9,400	47,000	.001400	.000050	.....	.....	
9,600	48,000	.001500	.000100	.....	.....	
9,800	49,000	.001550	.000050	.....	.....	
10,000	50,000	.001600	.000050	.0	.....	Elastic limit.
10,200	51,000	.001750	.000150	.....	.....	
10,400	52,000	.002000	.000250	.....	.....	
10,600	53,000	.002400	.000400	.....	.....	
10,850	54,000	.002650	.000250	.....	.....	
11,000	55,000	.003350	.000700	.....	.....	
11,200	56,000	.003850	.000500	.....	.....	
11,400	57,000	.004600	.000750	.....	.....	
11,600	58,000	.005250	.000650	.....	.....	
11,800	59,000	.005950	.000700	.....	.....	
12,000	60,000	.006450	.000500	.....	.....	
12,400	62,000	.008000	.001550	.....	.....	
12,800	64,000	.009350	.001350	.....	.....	
13,200	66,000	.010650	.001300	.....	.....	
13,600	68,000	.012250	.001600	.....	.....	
14,000	70,000	.014000	.001750	.....	.....	
14,400	72,000	.015600	.001600	.....	.....	
14,800	74,000	.017250	.001650	.....	.....	
15,200	76,000	.019050	.001800	.....	.....	
15,600	78,000	.021000	.001950	.....	.....	
16,000	80,000	.023250	.002250	.....	.....	
16,400	82,000	.025500	.002250	.....	.....	
16,800	84,000	.028000	.002500	.....	.....	
17,200	86,000	.030500	.002500	.....	.....	
17,600	88,000	.033100	.002600	.....	.....	
18,000	90,000	.037000	.003900	.....	.....	
18,400	92,000	.040600	.003600	.....	.....	
18,800	94,000	.044900	.004300	.....	.....	
19,200	96,000	.049500	.004600	.....	.....	
19,600	98,000	.051550	.002050	.....	.....	
20,000	100,000	.061000	.009450	.....	.....	
20,580	102,000	.0900	.0290	.....	.....	
20,685	103,025	.1150	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	103,
Elastic limit per square inch of original section	do...	50,
Elongation per inch after rupture	inch..	0.
Elongation per inch under strain at elastic limit	do...	.001
Reduction in diameter at point of rupture	do...	.
Reduction in area after rupture, per centum of original section		2
Position of rupture		".45 from middle of st
Character of broken surface		granular; dull cen
Elongation of inch sections		".20",

No. 602.

Marks, $^{22}\ B\ B_{15}\ T_2$
Length, 4″.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000600	.000150	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000950	.000200	0.	.....	
17,500	35,000	.001050	.000100	−.000050	−.000050	
20,000	40,000	.001200	.000150	−.000050	0.	
20,500	41,000	.001250	.000050	.....	.....	
21,000	42,000	.001250	0.	.....	.....	
21,500	43,000	.001300	.000050	.....	.....	
22,000	44,000	.001350	.000050	.....	.....	
22,500	45,000	.001350	0.	−.000050	0.	
23,000	46,000	.001400	.000050	.....	.....	
23,500	47,000	.001450	.000050	.....	.....	
24,000	48,000	.001500	.000050	.....	.....	
24,500	49,000	.001500	0.	.....	.....	
25,000	50,000	.001500	0.	0.	.000050	
25,500	51,000	.001550	.000050	.....	.....	
26,000	52,000	.001650	.000100	.....	.....	Elastic limit.
26,500	53,000	.001950	.000300	.....	.....	
27,000	54,000	.002450	.000500	.....	.....	
27,500	55,000	.003200	.000750	.001400	.001400	
28,000	56,000	.003800	.000600	.....	.....	
28,500	57,000	.004500	.000700	.....	.....	
29,000	58,000	.005500	.001000	.....	.....	
29,500	59,000	.006450	.000950	.....	.....	
30,000	60,000	.007300	.000850	.005200	.003800	
56,900	113,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	52,000
Compression per inch under stress at elastic limit	inch..	0.001650
Ultimate strength per square inch of original section	pounds..	113,800
Manner of failure		triple flexure

No. 2061.

Marks, $\frac{82\ B\ B_{16}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.		
2,000	10,000	.000150	.000100	0.		
3,000	15,000	.000250	.000100	0.		
4,000	20,000	.000350	.000100	0.		
5,000	25,000	.000550	.000200	0.		
6,000	30,000	.000700	.000150	0.		
7,000	35,000	.000900	.000200	0.		
8,000	40,000	.001050	.000150	0.		
9,000	45,000	.001350	.000300	0.		
9,200	46,000	.001450	.000100			
9,400	47,000	.001500	.000050			
9,600	48,000	.001550	.000050			
9,800	49,000	.001550	0.			
10,000	50,000	.001600	.000050	0.		
10,200	51,000	.001650	.000050			
10,400	52,000	.001700	.000050			Elastic limit.
10,600	53,000	.001850	.000150			
10,800	54,000	.002150	.000300			
11,000	55,000	.002600	.000450			
11,200	56,000	.003100	.000500			
11,400	57,000	.003550	.000450			
11,600	58,000	.004100	.000550			
11,800	59,000	.004900	.000800			
12,000	60,000	.005500	.000600			
12,400	62,000	.007100	.001600			
12,800	64,000	.008600	.001500			
13,200	66,000	.010200	.001600			
13,600	68,000	.011000	.000800			
14,000	70,000	.013300	.002300			
14,400	72,000	.015000	.001700			
14,800	74,000	.017000	.002000			
15,200	76,000	.018900	.001900			
15,600	78,000	.020600	.001700			
16,000	80,000	.022950	.002350			
16,400	82,000	.025200	.002250			
16,800	84,000	.027650	.002450			
17,200	86,000	.030600	.002950			
17,600	88,000	.033250	.002650			
18,000	90,000	.037550	.004300			
18,400	92,000	.041750	.004200			
18,800	94,000	.046200	.004450			
19,200	96,000	.052250	.006050			
19,600	98,000	.060500	.008250			
20,000	100,000	.071000	.010500			
20,400	102,000	.0950	.0240			
20,480	102,400	.1150	.0200			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	102,400
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1600
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		".4 from neck
Character of broken surface	granular;	dull center
Elongation of inch sections		".23*, " 09

No. 592.

Marks, $\frac{32\ B\ B_{16}}{T_2}$
Length, 4″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000300	.000200	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000600	.000150	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001100	.000200	0.	.....	
20,000	40,000	.001250	.000150	0.	.....	
22,500	45,000	.001450	.000200	0.	.....	
23,000	46,000	.001450	0.	.....	.....	
23,500	47,000	.001500	.000050	.....	.....	
24,000	48,000	.001500	0.	.....	.....	
24,500	49,000	.001500	.000050	.....	.....	
25,000	50,000	.001500	0.	0.	.....	
25,500	51,000	.001500	0.	.....	.....	
26,000	52,000	.001500	0.	.....	.....	
26,500	53,000	.001500	—.000050	.....	.....	Elastic limit.
27,000	54,000	.001450	—.000050	.....	.....	
27,500	55,000	.001300	—.000150	—.000450	—.000450	
28,000	56,000	.001150	—.000150	—.000650	—.000200	
28,500	57,000	.000950	—.000200	.....	.....	
29,000	58,000	.000600	—.000350	.....	.....	
29,500	59,000	.000400	—.000200	.....	.....	
30,000	60,000	.000200	—.000200	—.001700	—.002350	
53,200	106,400	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	53,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds..	106,400
Manner of failure		triple flexure

No. 2071.

Marks, $\frac{32\ B\ B_{17}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001100	.000150	0.	.....	
9,000	45,000	.001250	.000150	0.	.....	
9,200	46,000	.001300	.000050	.....	.....	
9,400	47,000	.001350	.000050	.....	.....	
9,600	48,000	.001400	.000050	.....	.....	
9,800	49,000	.001450	.000050	.....	.....	
10,000	50,000	.001500	.000050	0.	.....	
10,200	51,000	.001500	0.	.....	.....	
10,400	52,000	.001600	.000100	.....	.....	Elastic limit.
10,600	53,000	.001900	.000300	.....	.....	
10,800	54,000	.002400	.000500	.....	.....	
11,000	55,000	.002850	.000450	.....	.....	
11,200	56,000	.003350	.000500	.....	.....	
11,400	57,000	.004000	.000650	.....	.....	
11,600	58,000	.004700	.000700	.....	.....	
11,800	59,000	.005600	.000900	.....	.....	
12,000	60,000	.006100	.000500	.....	.....	
12,400	62,000	.007750	.001650	.....	.....	
12,800	64,000	.009900	.002150	.....	.....	
13,200	66,000	.011050	.001150	.....	.....	
13,600	68,000	.012900	.001850	.....	.....	
14,000	70,000	.014550	.001650	.....	.....	
14,400	72,000	.016250	.001700	.....	.....	
14,800	74,000	.018100	.001850	.....	.....	
15,200	76,000	.020100	.002000	.....	.....	
15,600	78,000	.022000	.001900	.....	.....	
16,000	80,000	.024450	.002450	.....	.....	
16,400	82,000	.027000	.002550	.....	.....	
16,800	84,000	.030250	.003250	.....	.....	
17,200	86,000	.033350	.003100	.....	.....	
17,600	88,000	.036750	.003400	.....	.....	
18,000	90,000	.041000	.004250	.....	.....	
18,400	92,000	.045350	.004350	.....	.....	
18,800	94,000	.051750	.006400	.....	.....	
19,200	96,000	.059500	.007750	.....	.....	
19,600	98,000	.0750	.0155	.....	.....	
20,000	100,000	.1000	.0250	.....	.....	
20,010	100,050	.1050	.0050	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,050
Elastic limit per square inch of original section	do ..	52,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do ..	.001600
Reduction in diameter at point of rupture	do ..	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture	½ inch from middle of stem	
Character of broken surface	granular; dull center	
Elongation of inch sections		".23*, ".11

No. 603.

Marks, $\frac{32\ B\ B_{17}}{T_2}$
Length, 4″.
Diameter ″.797.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000650	.000150	0.	.....	
12,500	25,000	.000800	.000150	0.	.....	
15,000	30,000	.001000	.000200	0.	.....	
17,500	35,000	.001200	.000200	0.	.....	
20,000	40,000	.001350	.000150	.000050	.000050	
20,500	41,000	.001350	0.	.....	.....	
21,000	42,000	.001400	.000050	.....	.....	
21,500	43,000	.001450	.000050	.....	.....	
22,000	44,000	.001500	.000050	.....	.....	
22,500	45,000	.001550	.000050	.000100	.000050	
23,000	46,000	.001650	0.	.....	.....	
23,500	47,000	.001600	.000050	.....	.....	
24,000	48,000	.001650	.000050	.....	.....	
24,500	49,000	.001750	.000100	.....	.....	
25,000	50,000	.001750	0.	.000200	.000100	Elastic limit.
25,500	51,000	.001950	.000200	.....	.....	
26,000	52,000	.002150	.000200	.....	.....	
26,500	53,000	.002600	.000450	.....	.....	
27,000	54,000	.003350	.000750	.....	.....	
27,500	55,000	.004450	.001100	.002700	.002500	
28,000	56,000	.005500	.001050	.....	.....	
28,500	57,000	.006500	.001000	.....	.....	
29,000	58,000	.007600	.001100	.....	.....	
29,500	59,000	.008250	.000650	.....	.....	
30,000	60,000	.009750	.001500	.007550	.004850	
52,500	105,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds	50,000
Compression per inch under stress at elastic limit	inch	0.001750
Ultimate strength per square inch of original section	pounds	105,000
Manner of failure		triple flexure

No. 2060.

Marks, $^{32\ B\ B_{18}}_{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000500	.000200	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000850	.000200	0.	.....	
7,000	35,000	.000950	.000100	0.	.....	
8,000	40,000	.001100	.000150	0.	.....	
9,000	45,000	.001300	.000200	0.	.....	
9,200	46,000	.001350	.000050	.....	.....	
9,400	47,000	.001350	0.	.....	.....	
9,600	48,000	.001400	.000050	.....	.....	
9,800	49,000	.001400	0.	.....	.....	
10,000	50,000	.001450	.000050	0.	.....	
10,200	51,000	.001550	.000100	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001600	0.	.....	.....	Elastic limit.
10,800	54,000	.001850	.000250	.....	.....	
11,000	55,000	.002350	.000500	.....	.....	
11,200	56,000	.002950	.000600	.....	.....	
11,400	57,000	.003600	.000650	.....	.....	
11,600	58,000	.004250	.000650	.....	.....	
11,800	59,000	.004850	.000600	.....	.....	
12,000	60,000	.005400	.000550	.....	.....	
12,400	62,000	.007200	.001800	.....	.....	
12,800	64,000	.008600	.001400	.....	.....	
13,200	66,000	.010150	.001550	.....	.....	
13,600	68,000	.011800	.001650	.....	.....	
14,000	70,000	.013150	.001350	.....	.....	
14,400	72,000	.015000	.001850	.....	.....	
14,800	74,000	.016600	.001600	.....	.....	
15,200	76,000	.018350	.001750	.....	.....	
15,600	78,000	.020350	.002000	.....	.....	
16,000	80,000	.022750	.002400	.....	.....	
16,400	82,000	.025050	.002300	.....	.....	
16,800	84,000	.027500	.002450	.....	.....	
17,200	86,000	.030000	.002500	.....	.....	
17,600	88,000	.033050	.003050	.....	.....	
18,000	90,000	.036550	.003500	.....	.....	
18,400	92,000	.040500	.003950	.....	.....	
18,800	94,000	.045000	.004500	.....	.....	
19,200	96,000	.050000	.005000	.....	.....	
19,600	98,000	.057300	.007300	.....	.....	
20,000	100,000	.066250	.008950	.....	.....	
20,400	102,000	.0900	.023750	.....	.....	
20,620	103,100	.1150	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	103,100
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		″.1 from middle of stem
Character of broken surface		granular; dull eccentric spot
Elongation of inch sections		″.22*, ″.14

No. 591.

Marks, $\frac{32\ B\ B_{13}}{T_2}$
Length, 3″.998.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001100	.000200	.000100	.000100	
20,000	40,000	.001300	.000200	.000100	0.	
22,500	45,000	.001500	.000200	.000150	.000050	
25,000	50,000	.001650	.000150	.000150	0.	
25,500	51,000	.001750	.000100	.....	.....	
26,000	52,000	.001750	0.	.....	.....	
26,500	53,000	.001750	0.	.....	.....	
27,000	54,000	.001800	.000050	.....	.....	
27,500	55,000	.001900	.000100	.000150	0.	
28,000	56,000	.001800	.000100	.....	.....	
28,500	57,000	.001800	0.	.....	.....	
29,000	58,000	.001800	0.	.....	.....	
29,500	59,000	.001750	.000050	.....	.....	
30,000	60,000	.001800	.000050	—.000100	—.000250	Elastic limit.
30,500	61,000	.002000	.000200	.....	.....	
31,000	62,000	.002300	.000300	.....	.....	
31,500	63,000	.002600	.000300	.....	.....	
32,000	64,000	.002950	.000350	.....	.....	
32,500	65,000	.003350	.000400	.001250	.001350	
33,000	66,000	.003850	.000500	.....	.....	
33,500	67,000	.004250	.000400	.....	.....	
34,000	68,000	.004900	.000650	.....	.....	
34,500	69,000	.005500	.000600	.....	.....	
35,000	70,000	.006300	.000800	.004000	.002750	
55,400	110,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section ..... pounds.. 60,000
Compression per inch under stress at elastic limit ..... inch.. 0.001800
Ultimate strength per square inch of original section ..... pounds.. 110,800
Manner of failure ..... triple flexure

No. 2072.

Marks, $\frac{32\ B\ B_{10}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000800	.000250	0.	.....	
5,000	25,000	.000950	.000150	0.	.....	
6,000	30,000	.001150	.000200	0.	.....	
7,000	35,000	.001300	.000150	0.	.....	
8,000	40,000	.001450	.000150	0.	.....	
9,000	45,000	.001650	.000200	.000050	.000050	
9,200	46,000	.001700	.000050	.....	.....	
9,400	47,000	.001700	0.	.....	.....	
9,600	48,000	.001750	.000050	.....	.....	
9,800	49,000	.001800	.000050	.....	.....	
10,000	50,000	.001800	0.	.000050	0.	
10,200	51,000	.001850	.000050	.....	.....	
10,400	52,000	.001900	.000050	.....	.....	Elastic limit.
10,600	53,000	.002050	.000150	.....	.....	
10,800	54,000	.002350	.000300	.....	.....	
11,000	55,000	.002800	.000450	.....	.....	
11,200	56,000	.003300	.000500	.....	.....	
11,400	57,000	.003850	.000550	.....	.....	
11,600	58,000	.004600	.000750	.....	.....	
11,800	59,000	.005300	.000700	.....	.....	
12,000	60,000	.006200	.000900	.....	.....	
12,400	62,000	.007750	.001550	.....	.....	
12,800	64,000	.009250	.001500	.....	.....	
13,200	66,000	.010750	.001500	.....	.....	
13,600	68,000	.012700	.001950	.....	.....	
14,000	70,000	.014700	.002000	.....	.....	
14,400	72,000	.016200	.001500	.....	.....	
14,800	74,000	.018250	.002050	.....	.....	
15,200	76,000	.020250	.002000	.....	.....	
15,600	78,000	.022550	.002300	.....	.....	
16,000	80,000	.025100	.002550	.....	.....	
16,400	82,000	.027600	.002500	.....	.....	
16,800	84,000	.031050	.003450	.....	.....	
17,200	86,000	.034100	.003050	.....	.....	
17,600	88,000	.038000	.003900	.....	.....	
18,000	90,000	.042050	.004050	.....	.....	
18,400	92,000	.047500	.005450	.....	.....	
18,800	94,000	.054650	.007150	.....	.....	
19,200	96,000	.062200	.007550	.....	.....	
19,600	98,000	.0850	.0228	.....	.....	
19,980	99,900	.1200	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,900
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1956
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		".45 from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		".27*, ".12

No. 604.

Marks, $\frac{32\ B\ B}{T_2}$
Length, 3″.997.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000350	.000050	0.	.....	
10,000	20,000	.000600	.000250	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001100	.000200	0.	.....	
20,000	40,000	.001250	.000150	0.	.....	
22,500	45,000	.001450	.000200	0.	.....	
23,000	46,000	.001500	.000050	.....	.....	
23,500	47,000	.001500	0.	.....	.....	
24,000	48,000	.001500	0.	.....	.....	
24,500	49,000	.021550	.000050	.....	.....	
25,000	50,000	.001600	.000050	0.	.....	
25,500	51,000	.001600	0.	.....	.....	
26,000	52,000	.001650	.000050	.....	.....	
26,500	53,000	.001700	.000050	.....	.....	
27,000	54,000	.001750	.000050	.....	.....	Elastic limit.
27,500	55,000	.001550	—.000200	—.000100	—.000400	
28,000	56,000	.001500	—.000050	.....	.....	
28,500	57,000	.001450	—.000050	.....	.....	
29,000	58,000	.001250	—.000200	.....	.....	
29,500	59,000	.001100	—.000150	.....	.....	
30,000	60,000	.001100	0.	—.000800	—.000400	
30,500	61,000	.001300	.000200	.....	.....	
31,000	62,000	.001400	.000100	.....	.....	
31,500	63,000	.001550	.000150	.....	.....	
32,000	64,000	.001800	.000250	.....	.....	
32,500	65,000	.002250	.000450	.000150	.000950	
33,000	66,000	.002750	.000500	.....	.....	
33,500	67,000	.003250	.000500	.....	.....	
34,000	68,000	.003850	.000600	.....	.....	
34,500	69,000	.004650	.000800	.....	.....	
35,000	70,000	.005150	.000500	.002800	.002650	
52,500	105,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	54,000
Compression per inch under stress at elastic limit	inch..	0.001750
Ultimate strength per square inch of original section	pounds..	105,000
Manner of failure		triple flexure

No. 2062.

Marks, $^{32\ B\ B}_{T,}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000400	.000050	0.	.....	
5,000	25,000	.000650	.000250	0.	.....	
6,000	30,000	.000750	.000100	0.	.....	
7,000	35,000	.000950	.000200	0.	.....	
8,000	40,000	.001150	.000200	0.	.....	
9,000	45,000	.001300	.000150	0.	.....	
9,200	46,000	.001350	.000050	.....	.....	
9,400	47,000	.001400	.000050	.....	.....	Elastic limit.
9,600	48,000	.001500	.000100	.....	.....	
9,800	49,000	.001650	.000150	.....	.....	
10,000	50,000	.002100	.000450	.....	.....	
10,200	51,700	.002400	.000300	.....	.....	
10,400	52,000	.002900	.000500	.....	.....	
10,600	53,000	.003400	.000500	.....	.....	
10,800	54,000	.003850	.000450	.....	.....	
11,000	55,000	.004550	.000700	.....	.....	
11,200	56,000	.005100	.000550	.....	.....	
11,400	57,000	.006150	.001050	.....	.....	
11,600	58,000	.006800	.000650	.....	.....	
11,800	59,000	.007600	.000800	.....	.....	
12,000	60,000	.008400	.000800	.....	.....	
12,400	62,000	.009950	.001550	.....	.....	
12,800	64,000	.011500	.001550	.....	.....	
13,200	66,000	.013500	.002000	.....	.....	
13,600	68,000	.015000	.001500	.....	.....	
14,000	70,000	.016850	.001850	.....	.....	
14,400	72,000	.019100	.002250	.....	.....	
14,800	74,000	.021200	.002100	.....	.....	
15,200	76,000	.023500	.002300	.....	.....	
15,600	78,000	.025700	.002200	.....	.....	
16,000	80,000	.028750	.003050	.....	.....	
16,400	82,000	.031750	.003000	.....	.....	
16,800	84,000	.034700	.002950	.....	.....	
17,200	86,000	.038500	.003800	.....	.....	
17,600	88,000	.043200	.004700	.....	.....	
18,000	90,000	.049000	.005800	.....	.....	
18,400	92,000	.055500	.006500	.....	.....	
18,800	94,000	.064800	.009300	.....	.....	
19,200	96,000	.0800	.0152	.....	.....	
19,580	97,900	.1100	.0300	.....	.....	Tensile strength.

* *General summary.*

Tensile strength per square inch of original section	pounds..	97,900
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1650
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		".40 from neck
Character of broken surface		granular; dull eccentric spot
Elongation of inch sections		".25", ".10

No. 593.

Marks, $\frac{32\ B\ B_{20}}{T_2}$
Length, 3″.993.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001000	.000150	0.	.....	
20,000	40,000	.001150	.000150	0.	.....	
20,500	41,000	.001200	.000050	.....	.....	
21,000	42,000	.001250	.000050	.....	.....	
21,500	43,000	.001250	0.	.....	.....	
22,000	44,000	.001250	0.	.....	.....	
22,500	45,000	.001300	.000050	.000050	.000050	Elastic limit.
23,000	46,000	.001500	.000200	.....	.....	
23,500	47,000	.001800	.000300	.....	.....	
24,000	48,000	.002150	.000350	.....	.....	
24,500	49,000	.002550	.000400	.....	.....	
25,000	50,000	.003000	.000450	.001400	.001350	
25,500	51,000	.003450	.000450	.....	.....	
26,000	52,000	.003800	.000350	.....	.....	
26,500	53,000	.004250	.000450	.....	.....	
27,000	54,000	.004700	.000450	.....	.....	
27,500	55,000	.005150	.000450	.003250	.001850	
50,700	101,400	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	45,900
Compression per inch under stress at elastic limit	inch..	0.001300
Ultimate strength per square inch of original section	pounds..	101,400
Manner of failure		triple flexure

No. 2073.

Marks, $\frac{32\ B\ B_m}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000200	.000100	0.		
3,000	15,000	.000300	.000100	0.		
4,000	20,000	.000450	.000150	0.		
5,000	25,000	.000650	.000200	0.		
6,000	30,000	.000850	.000200	0.		
7,000	35,000	.001000	.000150	0.		
8,000	40,000	.001200	.000200	0.		
9,000	45,000	.001300	.000100	0.		
9,200	46,000	.001350	.000050			
9,400	47,000	.001450	.000100			
9,600	48,000	.001500	.000050			
9,800	49,000	.001550	.000050			Elastic limit.
10,000	50,000	.001650	.000100	.000100	.000100	
10,200	51,000	.002000	.000350			
10,400	52,000	.002450	.000450			
10,600	53,000	.002700	.000250			
10,800	54,000	.003100	.000400			
11,000	55,000	.003550	.000450			
11,200	56,000	.004100	.000550			
11,400	57,000	.004650	.000550			
11,600	58,000	.005300	.000650			
11,800	59,000	.005950	.000650			
12,000	60,000	.006850	.000900			
12,400	62,000	.008250	.001400			
12,800	64,000	.010100	.001850			
13,200	66,000	.011650	.001550			
13,600	68,000	.012900	.001250			
14,000	70,000	.014750	.001850			
14,400	72,000	.016550	.001800			
14,800	74,000	.018100	.001550			
15,200	76,000	.020000	.001900			
15,600	78,000	.022550	.002550			
16,000	80,000	.024550	.002000			
16,400	82,000	.027100	.002550			
16,800	84,000	.029650	.002550			
17,200	86,000	.032500	.002850			
17,600	88,000	.035600	.003100			
18,000	90,000	.039550	.003950			
18,400	92,000	.043750	.004200			
18,800	94,000	.048500	.004750			
19,200	96,000	.055000	.006500			
19,600	98,000	.063250	.008250			
20,000	100,000	.0850	.021750			
20,310	101,550	.1100	.0250			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	101,550
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.1600
Elongation per inch under strain at elastic limit	do...	.001550
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		″.45 from neck
Character of broken surface		granular; dul' eccentric spot
Elongation of inch sections		″.23*, ″.09

No. 605.

Marks, $\frac{32\ B\ B_2}{T_2}$
Length, 3″.995.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000600	.000150	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001100	.000200	0.	.....	
20,000	40,000	.001250	.000150	0.	.....	
22,500	45,000	.001500	.000250	0.	.....	
23,000	46,000	.001500	0.	.....	.....	
23,500	47,000	.001550	.000050	.....	.....	
24,000	48,000	.001550	0.	.....	.....	
24,500	49,000	.001600	.000050	.....	.....	
25,000	50,000	.001700	.000100	.000100	.000100	Elastic limit.
25,500	51,000	.001900	.000200	.....	.....	
26,000	52,000	.002200	.000300	.....	.....	
26,500	53,000	.002550	.000350	.....	.....	
27,000	54,000	.003050	.000500	.....	.....	
27,500	55,000	.003600	.000550	.001850	.001750	
28,000	56,000	.004350	.000750	.....	.....	
28,500	57,000	.005300	.000950	.....	.....	
29,000	58,000	.006300	.001000	.....	.....	
29,500	59,000	.007150	.000850	.....	.....	
30,000	60,000	.008000	.000850	.005850	.004000	
53,900	107,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001700
Ultimate strength per square inch of original section	pounds..	107,800
Manner of failure		triple fracture

No. 2063.

Marks, $\frac{32\ B\ B_{2}}{T_{1}}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000300	.000200	0.		
3,000	15,000	.000400	.000100	0.		
4,000	20,000	.000550	.000150	0.		
5,000	25,000	.000650	.000100	0.		
6,000	30,000	.000900	.000250	0.		
7,000	35,000	.001050	.000150	0.		
8,000	40,000	.001250	.000200	0.		
9,000	45,000	.001450	.000200	0.		
9,200	46,000	.001450	0.			
9,400	47,000	.001500	.000050			
9,600	48,000	.001550	.000050			
9,800	49,000	.001600	.000050			
10,000	50,000	.001700	.000100			Elastic limit.
10,200	51,000	.001900	.000200			
10,400	52,000	.002250	.000350			
10,600	53,000	.002550	.000300			
10,800	54,000	.003250	.000700			
11,000	55,000	.004100	.000850			
11,200	56,000	.004700	.000600			
11,400	57,000	.005400	.000700			
11,600	58,000	.006150	.000750			
11,800	59,000	.006950	.000800			
12,000	60,000	.007600	.000650			
12,400	62,000	.009250	.001650			
12,800	64,000	.010650	.001400			
13,200	66,000	.012450	.001800			
13,600	68,000	.014100	.001650			
14,000	70,000	.015800	.001700			
14,400	72,000	.017700	.001900			
14,800	74,000	.019600	.001900			
15,200	76,000	.021700	.002100			
15,600	78,000	.023900	.002200			
16,000	80,000	.026500	.002600			
16,400	82,000	.029050	.002550			
16,800	84,000	.031850	.002800			
17,200	86,000	.035150	.003300			
17,600	88,000	.038600	.003450			
18,000	90,000	.043250	.004650			
18,400	92,000	.048750	.005500			
18,800	94,000	.054750	.006000			
19,200	96,000	.065750	.001100			
19,600	98,000	.0800	.014250			
19,870	99,350	.1150	.0350			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,350
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	001700
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		".55 from neck
Character of broken surface		granular; dull center
Elongation of inch sections		".26*, ".10

No. 594.

Marks, $^{32\ B\ B_{22}}_{T_3}$
Length, 3″.996.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000500	.000100	0.	.....	
12,500	25,000	.000650	.000150	0.	.....	
15,000	30,000	.000850	.000200	0.	.....	
17,500	35,000	.001000	.000150	—.000050	— .000050	
20,000	40,000	.001150	.002150	— .000050	0.	
22,500	45,000	.001300	.000150	—.000050	0.	
23,000	46,000	.001300	0.	.....	.....	
23,500	47,000	.001350	.000050	.....	.....	
24,000	48,000	.001350	0.	.....	.....	
24,500	49,000	.001400	.000050	.....	.....	
25,000	50,000	.001450	.000050	— .000100	—.000050	
25,500	51,000	.001450	0.	.....	.....	
26,000	52,000	.001500	.000050	.....	.....	
26,500	53,000	.001500	0.	.....	.....	Elastic limit.
27,000	54,000	.001650	.000150	.....	.....	
27,500	55,000	.001950	.000300	.000350	.000450	
28,000	56,000	.002250	.000300	.....	.....	
28,500	57,000	.002500	.000250	.....	.....	
29,000	58,000	.002950	.000450	.....	.....	
29,500	59,000	.003300	.000350	.....	.....	
30,000	60,000	.003800	.000500	.002000	.001650	
30,500	61,000	.004450	.000650	.....	.....	
31,000	62,000	.004900	.000450	.....	.....	
31,500	63,000	.005500	.000600	.....	.....	
32,000	64,000	.006100	.000600	.....	.....	
32,500	65,000	.006800	.000700	.004650	.002650	
53,500	107,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	53,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds.	107,000
Manner of failure		triple flexure

No. 2074.

Marks $\frac{32\ B\ B_{32}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000400	.000200	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001050	.000100	0.	.....	
8,000	40,000	.001300	.000250	0.	.....	
9,000	45,000	.001550	.000250	0.	.....	
9,200	46,000	.001550	0.	.....	.....	
9,400	47,000	.001650	.000100	.....	.....	Elastic limit.
9,600	48,000	.001850	.000200	.....	.....	
9,800	49,000	.002150	.000300	.....	.....	
10,000	50,000	.002550	.000400	.....	.....	
10,200	51,000	.003050	.000500	.....	.....	
10,400	52,000	.003500	.000450	.....	.....	
10,600	53,000	.004050	.000550	.....	.....	
10,800	54,000	.004550	.000500	.....	.....	
11,000	55,000	.005050	.000500	.....	.....	
11,200	56,000	.005750	.000700	.....	.....	
11,400	57,000	.006650	.000900	.....	.....	
11,600	58,000	.007300	.000650	.....	.....	
11,800	59,000	.007850	.000550	.....	.....	
12,000	60,000	.008700	.000850	.....	.....	
12,400	62,000	.010150	.001450	.....	.....	
12,800	64,000	.011650	.001500	.....	.....	
13,200	66,000	.013250	.001600	.....	.....	
13,600	68,000	.015150	.001900	.....	.....	
14,000	70,000	.017000	.001850	.....	.....	
14,400	72,000	.018750	.001750	.....	.....	
14,800	74,000	.020650	.001900	.....	.....	
15,200	76,000	.023050	.002400	.....	.....	
15,600	78,000	.025600	.002550	.....	.....	
16,000	80,000	.028550	.002950	.....	.....	
16,400	82,000	.031000	.002450	.....	.....	
16,800	84,000	.033750	.002750	.....	.....	
17,200	86,000	.037000	.003250	.....	.....	
17,600	88,000	.040600	.003600	.....	.....	
18,000	90,000	.045150	.004550	.....	.....	
18,400	92,000	.051050	.005900	.....	.....	
18,800	94,000	.057650	.006600	.....	.....	
19,200	96,000	.0700	.012350	.....	.....	
19,600	98,000	.0900	.0200	.....	.....	
19,830	99,150	.1150	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,150
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1550
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do ..	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		½ inch from neck
Character of broken surface		granular; dull center
Elongation of inch sections		".22", ".09

No. 606.

Marks, $\frac{32\ B\ B_{22}}{T_3}$
Length, 3″.995.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000200	.000100	0.	.....	
7,500	15,000	.000300	.000100	0.	.....	
10,000	20,000	.000400	.000100	0.	.....	
12,500	25,000	.000600	.000200	0.	.....	
15,000	30,000	.000700	.000100	0.	.....	
17,500	35,000	.000850	.000150	0.	.....	
20,000	40,000	.001000	.000150	—.000050	—.000050	
20,500	41,000	.001000	0.	.....	.....	
21,000	42,000	.001000	0.	.....	.....	
21,500	43,000	.001050	.000050	.....	.....	
22,000	44,000	.001100	.000050	.....	.....	
22,500	45,000	.001100	0.	—.000100	—.000050	
23,000	46,000	.001100	0.	.....	.....	
23,500	47,000	.001050	.000050	.....	.....	Elastic limit.
24,000	48,000	.002150	.001100	.....	.....	
24,500	49,000	.003000	.000850	.....	.....	
25,000	50,000	.003950	.000950	.....	.....	
51,800	103,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	47,000
Compression per inch under stress at elastic limit	inch..	0.001050
Ultimate strength per square inch of original section	pounds..	103,600
Manner of failure		triple flexure

No. 2068.

Marks, $^{32}_{T_1}\ B\ B_M$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001200	.000250	0.	.....	
8,000	40,000	.001300	.000100	0.	.....	
9,000	45,000	.001500	.000200	0.	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001600	.000050	.....	.....	
9,600	48,000	.001650	.000050	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	Elastic limit.
10,000	50,000	.002050	.000350	.....	.....	
10,200	51,000	.002400	.000350	.....	.....	
10,400	52,000	.002900	.000500	.....	.....	
10,600	53,000	.003400	.000500	.....	.....	
10,800	54,000	.003900	.000500	.....	.....	
11,000	55,000	.004500	.000600	.....	.....	
11,200	56,000	.005350	.000850	.....	.....	
11,400	57,000	.006000	.000650	.....	.....	
11,600	58,000	.007100	.001100	.....	.....	
11,800	59,000	.007700	.000600	.....	.....	
12,000	60,000	.008600	.000900	.....	.....	
12,400	62,000	.010000	.001400	.....	.....	
12,800	64,000	.011250	.001250	.....	.....	
13,200	66,000	.013000	.001750	.....	.....	
13,600	68,000	.014800	.001800	.....	.....	
14,000	70,000	.016450	.001650	.....	.....	
14,400	72,000	.018400	.001950	.....	.....	
14,800	74,000	.020350	.001950	.....	.....	
15,200	76,000	.022650	.002300	.....	.....	
15,600	78,000	.024850	.002200	.....	.....	
16,000	80,000	.027700	.002850	.....	.....	
16,400	82,000	.030650	.002950	.....	.....	
16,800	84,000	.033500	.002850	.....	.....	
17,200	86,000	.037250	.003700	.....	.....	
17,600	88,000	.041050	.003850	.....	.....	
18,000	90,000	.047000	.005050	.....	.....	
18,400	92,000	.052250	.005250	.....	.....	
18,800	94,000	.060500	.008250	.....	.....	
19,200	96,000	.0700	.0095	.....	.....	
19,600	98,000	.0950	.0250	.....	.....	
19,740	98,700	.1350	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,700
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	0.85
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		″.4 from neck
Character of broken surface		granular; dull center
Elongation of inch sections		″.24*, ″.17

No. 600.

Marks, $\frac{32\ B\ B_{34}}{T_2}$
Length, 3″.998.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.		
5,000	10,000	.000300	.000150	0.		
7,500	15,000	.000450	.000150	0.		
10,000	20,000	.000600	.000150	0.		
12,500	25,000	.000750	.000150	0.		
15,000	30,000	.000950	.000200	0.		
17,500	35,000	.001150	.000200	0.		
20,000	40,000	.001300	.000150	.000050	.000050	
20,500	41,000	.001350	.000050			
21,000	42,000	.001400	.000050			
21,500	43,000	.001450	.000050			
22,000	44,000	.001500	.000050			
22,500	45,000	.001500	.0	.000100	.000050	
23,000	46,000	.001500	.0			
23,500	47,000	.001550	.000050			
24,000	48,000	.001600	.000050			
24,500	49,000	.001650	.000050			
25,000	50,000	.001650	.0	.000100	.0	Elastic limit.
25,500	51,000	.001750	.000100			
26,000	52,000	.002000	.000250			
26,500	53,000	.002600	.000600			
27,000	54,000	.003300	.000700			
27,500	55,000	.003850	.000550	.002100	.002000	
28,000	56,000	.004500	.000650			
28,500	57,000	.005250	.000750			
29,000	58,000	.006000	.000750			
29,500	59,000	.006750	.000750			
30,000	60,000	.007750	.001000	.005550	.003450	
52,700	105,400					Ultimate strength

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001650
Ultimate strength per square inch of original section	pounds..	105,400
Manner of failure		triple flexure

No. 2045.

Marks, $\frac{32\ B\ B_{38}}{T_1}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000650	.000200	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001100	.000150	0.	.....	
8,800	44,000	.001150	.000050	.....	.....	Elastic limit.
9,000	45,000	.001550	.000400	.000150	.000150	
9,200	46,000	.002300	.000750	.....	.....	
9,400	47,000	.003150	.000850	.....	.....	
9,600	48,000	.003600	.000450	.....	.....	
9,800	49,000	.004150	.000550	.....	.....	
10,000	50,000	.004900	.000750	.003150	.003000	
10,200	51,000	.005500	.000600	.....	.....	
10,400	52,000	.006500	.001000	.....	.....	
10,600	53,000	.007100	.000600	.....	.....	
10,800	54,000	.007600	.000500	.....	.....	
11,000	55,000	.008400	.000800	.....	.....	
11,200	56,000	.009200	.000800	.....	.....	
11,400	57,000	.009900	.000700	.....	.....	
11,600	58,000	.010650	.000750	.....	.....	
11,800	59,000	.011550	.000900	.....	.....	
12,000	60,000	.012500	.000950	.....	.....	
12,400	62,000	.014200	.001700	.....	.....	
12,800	64,000	.015650	.001450	.....	.....	
13,200	66,000	.017450	.001800	.....	.....	
13,600	68,000	.019500	.002050	.....	.....	
14,000	70,000	.021500	.002000	.....	.....	
14,400	72,000	.024000	.002500	.....	.....	
14,800	74,000	.026100	.002100	.....	.....	
15,200	76,000	.028850	.002750	.....	.....	
15,600	78,000	.031450	.002600	.....	.....	
16,000	80,000	.034550	.003100	.....	.....	
16,400	82,000	.038200	.003650	.....	.....	
16,800	84,000	.042500	.004300	.....	.....	
17,200	86,000	.046850	.004350	.....	.....	
17,600	88,000	.052750	.005900	.....	.....	
18,000	90,000	.060500	.007750	.....	.....	
18,400	92,000	.0650	.0045	.....	.....	
18,800	94,000	.0850	.0200	.....	.....	
19,120	95,600	.1300	.0450	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8579
Tensile strength per square inch of original section	pounds	95,600
Elastic limit per square inch of original section	do	44,000
Elongation per inch after rupture	inch	0.1900
Elongation per inch under strain at elastic limit	do	.001150
Reduction in diameter at point of rupture	do	.094
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		? inch from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		".25", ".13

No. 582.

Marks, $\frac{32\ B\ B_{38}}{T_2}$
Length, 3″.996.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000350	.000050	0.	.....	
10,000	20,000	.000500	.000150	0.	.....	
12,500	25,000	.000500	0.	−.000100	−.000100	
15,000	30,000	.000650	.000150	−.000100	0.	
17,500	35,000	.000750	.000100	−.000150	−.000050	
20,000	40,000	.000850	.000100	−.000200	−.000050	
20,500	41,000	.000850	0.	.....	.....	
21,000	42,000	.000900	.000050	.....	.....	
21,500	43,000	.000900	0.	.....	.....	
22,000	44,000	.000900	0.	.....	.....	
22,500	45,000	.000900	0.	−.000250	−.000050	
23,000	46,000	.000800	.000100	.....	.....	
23,500	47,000	.000850	.000050	.....	.....	Elastic limit.
24,000	48,000	.001000	.000150	.....	.....	
24,500	49,000	.001250	.000250	.....	.....	
25,000	50,000	.001750	.000500	.000250	.000500	
25,500	51,000	.002050	.000300	.....	.....	
26,000	52,000	.002650	.000600	.....	.....	
26,500	53,000	.003300	.000650	.....	.....	
27,000	54,000	.004000	.000700	.....	.....	
27,500	55,000	.004600	.000600	.002800	.002550	
28,000	56,000	.005300	.000700	.....	.....	
28,500	57,000	.005850	.000550	.....	.....	
29,000	58,000	.006800	.000950	.....	.....	
29,500	59,000	.007600	.000800	.....	.....	
30,000	60,000	.008300	.000700	.006050	.003250	
51,500	103,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	47,000
Compression per inch under stress at elastic limit	inch..	0.000850
Ultimate strength per square inch of original section	pounds..	103,000
Manner of failure		triple flexur

[Additional specimens.]

No. 2395.

Marks, $\frac{32\ B\ B_2}{T_2}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001050	.000100	.....	.....	
8,000	40,000	.001200	.000150	.....	.....	
9,000	45,000	.001500	.000300	.....	.....	
10,000	50,000	.001650	.000150	.....	.....	
11,000	55,000	.001800	.000150	.....	.....	
11,200	56,000	.001850	.000050	.....	.....	
11,400	57,000	.001900	.000050	.....	.....	
11,600	58,000	.001900	0.	.....	.....	
11,800	59,000	.001950	.000050	.....	.....	
12,000	60,000	.002000	.000050	.....	.....	Elastic limit.
12,200	61,000	.004700	.002700	.....	.....	
12,400	62,000	.006300	.001600	.....	.....	
12,600	63,000	.007200	.000900	.....	.....	
12,800	64,000	.008300	.001100	.....	.....	
13,000	65,000	.009350	.001050	.....	.....	
13,200	66,000	.010250	.000900	.....	.....	
13,400	67,000	.011250	.001000	.....	.....	
13,600	68,000	.011850	.000600	.....	.....	
13,800	69,000	.012750	.000900	.....	.....	
14,000	70,000	.014000	.001250	.....	.....	
14,400	72,000	.016000	.002000	.....	.....	
14,800	74,000	.017750	.001750	.....	.....	
15,200	76,000	.019750	.002000	.....	.....	
15,800	78,000	.022200	.002450	.....	.....	
16,000	80,000	.024750	.002550	.....	.....	
16,400	82,000	.027500	.002750	.....	.....	
16,800	84,000	.030250	.002750	.....	.....	
17,200	86,000	.033650	.003400	.....	.....	
17,600	88,000	.037500	.003850	.....	.....	
18,000	90,000	.042000	.004500	.....	.....	
18,400	92,000	.047100	.005100	.....	.....	
18,800	94,000	.0550	.0079	.....	.....	
19,200	96,000	.0600	.0050	.....	.....	
19,600	98,000	.0750	.0050	.....	.....	
19,990	99,950	.1200	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,950
Elastic limit per square inch of original section	do...	60,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do...	.002000
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		1″.2 from neck
Character of broken surface		silky
Elongation of inch sections		″.25*, ″.20

No. 646.

Marks, $^{32}_{T_4}BB_{38}$
Length, 4″.004.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000650	.000200	0.	.....	
12,500	25,000	.000800	.000150	0.	.....	
15,000	30,000	.000950	.000150	0.	.....	
17,500	35,000	.001100	.000150	0.	.....	
20,000	40,000	.001300	.000200	0.	.....	
22,500	45,000	.001450	.000150	0.	.....	
25,000	50,000	.001600	.000150	0.	.....	
25,500	51,000	.001650	.000050	.....	.....	
26,000	52,000	.001700	.000050	.....	.....	
26,500	53,000	.001700	0.	.....	.....	
27,000	54,000	.001750	.000050	.....	.....	
27,500	55,000	.001800	.000050	.....	.....	
28,000	56,000	.001800	0.	.....	.....	
28,500	57,000	.001850	.000050	.....	.....	
29,000	58,000	.001850	0.	.....	.....	
29,500	59,000	.001900	.000050	.....	.....	
30,000	60,000	.001900	0.	.....	.....	
30,500	61,000	.001950	.000050	.....	.....	Elastic limit.
31,000	62,000	.003500	.001550	.....	.....	
31,500	63,000	.003800	.000300	.....	.....	
32,000	64,000	.004050	.000250	.....	.....	
32,500	65,000	.004350	.000300	.....	.....	
33,000	66,000	.004750	.000400	.....	.....	
53,160	106,320	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	61,000
Compression per inch under stress at elastic limit	inch..	0.001950
Ultimate strength per square inch of original section	pounds..	106,320
Manner of failure		triple flexure

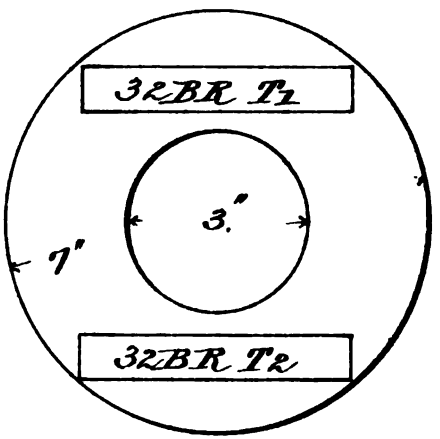
SPECIMENS FROM STEEL BASE RINGS

FOR

3″.2 STEEL B. L. RIFLES.

Base Ring 3.2" Rifle

General drawing showing positions from whence specimens were taken.



H Ex 31 49 2

SPECIMENS FROM STEEL BASE RINGS FOR 3″.2 STEEL B. L. RIFLES.

No. 1030.

Marks, $\frac{32\ B\ B_1}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000300	.000150	0.		
3,000	15,000	.000450	.000150	0.		
4,000	20,000	.000650	.000200	0.		
5,000	25,000	.000800	.000150	0.		
6,000	30,000	.000950	.000150	0.		
7,000	35,000	.001150	.000200	.000050	.000050	
8,000	40,000	.001300	.000150	.000050	0.	
9,000	45,000	.001450	.000150	.000050	0.	
10,000	50,000	.001650	.000200	.000050	0.	
10,200	51,000	.001750	.000100			
10,400	52,000	.001850	.000100			Elastic limit.
10,600	53,000	.001900 .002050	.000050 .000150			
10,800	54,000	.002350	.000300			
11,000	55,000	.003000	.000650	.001050	.001000	
11,200	56,000	.003450	.000450			
11,400	57,000	.004000	.000550			
11,600	58,000	.004500	.000500			
11,800	59,000	.005250	.000750			
12,000	60,000	.006100	.000850	.003850	.002800	
12,400	62,000	.007150	.001050			
12,800	64,000	.008650	.001500			
13,200	66,000	.010350	.001700			
13,600	68,000	.011900	.001550			
14,000	70,000	.013250	.001350			
14,400	72,000	.015000	.001750			
14,800	74,000	.016600	.001600			
15,200	76,000	.018600	.002000			
15,600	78,000	.020600	.002000			
16,000	80,000	.022500	.001900			
16,400	82,000	.025000	.002500			
16,800	84,000	.027200	.002200			
17,200	86,000	.030000	.002800			
17,600	88,000	.032900	.002900			
18,000	90,000	.036050	.003150			
18,400	92,000	.039550	.003500			
18,800	94,000	.043000	.003450			
19,200	96,000	.048500	.005500			
19,600	98,000	.056250	.007750			
20,000	100,000	.0650	.008750			
20,400	102,000	.0800	.0150			
20,710	103,550	.1300	.0500			Tensile strength.

General summary.

Specific gravity		7.8678
Tensile strength per square inch of original section	pounds	103,550
Elastic limit per square inch of original section	do	52,000
Elongation per inch after rupture	inch	0.1900
Elongation per inch under strain at elastic limit	do	.001850
Reduction in diameter at point of rupture	do	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		″.7 from neck
Character of broken surface		granular; dull center
Elongation of inch sections		″.26″, ″.12

No. 534.

Marks, $\frac{32\ B\ R_1}{T_2}$
Length, 4″.48.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000050	.000050	0.	.....	
5,000	10,000	.000200	.000150	0.	.....	
7,500	15,000	.000350	.000150	0.	.....	
10,000	20,000	.000500	.000150	0.	.....	
12,500	25,000	.000650	.000150	0.	.....	
15,000	30,000	.000800	.000150	0.	.....	
17,500	35,000	.001000	.000200	0.	.....	
20,000	40,000	.001100	.000100	0.	.....	
22,500	45,000	.001300	.000200	0.	.....	
24,500	49,000	.001400	.000100	.....	.....	Elastic limit.
25,000	50,000	.001350	— .000050	— .000100	— .000100	
25,500	51,000	.001250	— .000100	.....	.....	
26,000	52,000	.001100	— .000150	.....	.....	
26,500	53,000	.000950	— .000150	.....	.....	
27,000	54,000	.000800	— .000150	.....	.....	
27,500	55,000	.000700	— .000100	— .000950	— .000850	
28,000	56,000	.000550	— .000150	.....	.....	
28,500	57,000	.000500	— .000050	.....	.....	
29,000	58,000	.000450	— .000450	.....	.....	
29,500	59,000	.000400	— .000050	.....	.....	
30,000	60,000	.000400	0.	— .001350	— .000400	
50,550	101,100	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	49,000
Compression per inch under stress at elastic limit	inch..	0.001400
Ultimate strength per square inch of original section	pounds..	101,100
Manner of failure		triple flexure

NOTE.—This specimen deflected convex on the side carrying the micrometer, thus causing an apparent elongation along that line.

No. 1031.

Marks, $\frac{\text{B B}_2}{\text{T}_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000800	.000050	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001100	.000150	0.	.....	
9,000	45,000	.001200	.000200	.000050	.000050	
10,000	50,000	.001550	.000250	.000100	.000050	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001750	.000050	.....	.....	
11,000	55,000	.001800	.000050	.000100	0.	
11,200	56,000	.001800	0.	.....	.....	
11,400	57,000	.001900	.000100	.....	.....	Elastic limit.
11,600	58,000	.002100	.000200	.....	.....	
11,800	59,000	.002350	.000250	.....	.....	
12,000	60,000	.002750	.000400	.000750	.000650	
12,400	62,000	.003250	.000500	.....	.....	
12,800	64,000	.004250	.001000	.....	.....	
13,200	66,000	.005800	.001550	.....	.....	
13,600	68,000	.007400	.001600	.....	.....	
14,000	70,000	.008650	.001250	.....	.....	
14,400	72,000	.009450	.000800	.....	.....	
14,800	74,000	.011300	.001850	.....	.....	
15,200	76,000	.012800	.001500	.....	.....	
15,600	78,000	.014250	.001450	.....	.....	
16,000	80,000	.015700	.001450	.....	.....	
16,400	82,000	.017300	.001600	.....	.....	
16,800	84,000	.019250	.001950	.....	.....	
17,200	86,000	.021200	.001950	.....	.....	
17,600	88,000	.023200	.002000	.....	.....	
18,000	90,000	.025700	.002500	.....	.....	
18,400	92,000	.027850	.002150	.....	.....	
18,800	94,000	.030000	.002150	.....	.....	
19,200	96,000	.033000	.003000	.....	.....	
19,600	98,000	.036150	.003150	.....	.....	
20,000	100,000	.039550	.003400	.....	.....	
20,400	102,000	.0450	.005450	.....	.....	
20,800	104,000	.0500	.0050	.....	.....	
21,200	106,000	.0550	.0050	.....	.....	
21,600	108,000	.0650	.0100	.....	.....	
22,000	110,000	.0800	.0150	.....	.....	
22,100	110,500	.1100	.0300	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8667
Tensile strength per square inch of original section	pounds	110,500
Elastic limit per square inch of original section	do	57,000
Elongation per inch after rupture	inch	0.1500
Elongation per inch under strain at elastic limit	do	.001900
Reduction in diameter at point of rupture	do	.065
Reduction in area after rupture, per centum of original section		23.9
Position of rupture		".55 from neck
Character of broken surface		granular; dull center
Elongation of inch sections		".20", ".10

No. 535.

Marks, $\frac{32\ B\ R_3}{T_2}$
Length 4″.49.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.		
5,000	10,000	.000300	.000150	0.		
7,500	15,000	.000500	.000200	0.		
10,000	20,000	.000600	.000100	0.		
12,500	25,000	.000750	.000150	0.		
15,000	30,000	.000900	.000150	0.		
17,500	35,000	.001100	.000200	0.		
20,000	40,000	.001250	.000150	0.		
22,500	45,000	.001400	.000150	0.		
25,000	50,000	.001500	.000100	0.		
25,500	51,000	.001550	.000050			
26,000	52,000	.001600	.000050			
26,500	53,000	.001600	0.			
27,000	54,000	.001600	.000050			
27,500	55,000	.001750	.000100	.000050	.000050	
28,000	56,000	.001750	0.			
28,500	57,000	.001800	.000050			Elastic limit.
29,000	58,000	.001950	.000150			
29,500	59,000	.002200	.000250			
30,000	60,000	.002500	.000300	.000650	.000600	
30,500	61,000	.002750	.000250			
31,000	62,000	.003150	.000400			
31,500	63,000	.003550	.000400			
32,000	64,000	.004050	.000500			
32,500	65,000	.004600	.000550	.002550	.001900	
54,240	108,480					Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	57,000
Compression per inch under stress at elastic limit	inch.	0.001800
Ultimate strength per square inch of original section	pounds..	108,480
Manner of failure		triple flexure

No. 1032.

Marks, $\frac{32\ B\ R_{10}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001400	.000100	0.	.....	
10,000	50,000	.001600	.000200	0.	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	Elastic limit.
10,800	54,000	.001900	.000150	.....	.....	
11,000	55,000	.002250	.000350	.000550	.000550	
11,200	56,000	.002850	.000600	.....	.....	
11,400	57,000	.003250	.000400	.....	.....	
11,600	58,000	.003700	.000450	.....	.....	
11,800	59,000	.004600	.000900	.....	.....	
12,000	60,000	.005250	.000650	.003050	.002500	
12,400	62,000	.006300	.001050	.....	.....	
12,800	64,000	.008100	.001800	.....	.....	
13,200	66,000	.009650	.001550	.....	.....	
13,600	68,000	.011150	.001500	.....	.....	
14,000	70,000	.012650	.001500	.....	.....	
14,400	72,000	.014200	.001550	.....	.....	
14,800	74,000	.016050	.001850	.....	.....	
15,200	76,000	.017750	.001700	.....	.....	
15,600	78,000	.019750	.002000	.....	.....	
16,000	80,000	.022000	.002250	.....	.....	
16,400	82,000	.024500	.002500	.....	.....	
16,800	84,000	.026600	.002100	.....	.....	
17,200	86,000	.028750	.002150	.....	.....	
17,600	88,000	.031750	.003000	.....	.....	
18,000	90,000	.035600	.003850	.....	.....	
18,400	92,000	.039000	.003400	.....	.....	
18,800	94,000	.044250	.005250	.....	.....	
19,200	96,000	.051150	.006900	.....	.....	
19,600	98,000	.056000	.004850	.....	.....	
20,000	100,000	.0600	.0040	.....	.....	
20,400	102,000	.0850	.0250	.....	.....	
20,580	102,900	.1050	.0200	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8646
Tensile strength per square inch of original section	pounds..	102,900
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do ..	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		".45 from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		".26", ".08

No. 536.

Marks, $\frac{32\ B\ R_{10}}{T_2}$
Length, 4″.50.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000800	.000100	0.	.....	
17,500	35,000	.001000	.000200	0.	.....	
20,000	40,000	.001200	.000200	0.	.....	
22,500	45,000	.001300	.000100	0.	.....	
25,000	50,000	.001500	.000200	0.	.....	
27,500	55,000	.001600	.000100	0.	.....	
28,000	56,000	.001700	.000100	.....	.....	
28,500	57,000	.001700	0.	.....	.....	
29,000	58,000	.001750	.000050	.....	.....	
29,500	59,000	.001800	.000050	.....	.....	Elastic limit.
30,000	60,000	.001900	.000100	.000150	.000150	
30,500	61,000	.002000	.000100	.....	.....	
31,000	62,000	.002150	.000150	.....	.....	
31,500	63,000	.002250	.000100	.....	.....	
32,000	64,000	.002500	.000250	.....	.....	
32,500	65,000	.002800	.000300	.000900	.000750	
52,900	105,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section ..... pounds.. 59,0[illegible]
Compression per inch under stress at elastic limit ..... inch.. 0.001[illegible]
Ultimate strength per square inch of original section ..... pounds.. 105,[illegible]
Manner of failure .. .. triple flexu[illegible]

No. 1103.

Marks, $\frac{32\ B\ B_{18}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000250	.000150	0.		
3,000	15,000	.000400	.000150	0.		
4,000	20,000	.000550	.000150	0.		
5,000	25,000	.000700	.000150	0.		
6,000	30,000	.000850	.000150	0.		
7,000	35,000	.001000	.000150	0.		
8,000	40,000	.001150	.000150	0.		
9,000	45,000	.001350	.000200	0.		
10,000	50,000	.001550	.000200	.000050	.000050	
11,000	55,000	.001800	.000250	.000050	0.	
11,200	56,000	.001850	.000050			Elastic limit.
11,400	57,000	.001900	.000050			
11,600	58,000	.002100	.000200			
11,800	59,000	.002900	.000800			
12,000	60,000	.003500	.000600	.001350	.001300	
12,400	62,000	.004750	.001250			
12,800	64,000	.005750	.001000			
13,200	66,000	.006800	.001050			
13,600	68,000	.008350	.001550			
14,000	70,000	.009750	.001400			
14,400	72,000	.011150	.001400			
14,800	74,000	.012600	.001450			
15,200	76,000	.014350	.001750			
15,600	78,000	.016050	.001700			
16,000	80,000	.018000	.001950			
16,400	82,000	.020000	.002000			
16,800	84,000	.021750	.001750			
17,200	86,000	.023800	.002050			
17,600	88,000	.025750	.001950			
18,000	90,000	.028050	.002300			
18,400	92,000	.030650	.002600			
18,800	94,000	.033550	.002900			
19,200	96,000	.036500	.002950			
19,600	98,000	.040000	.003500			
20,000	100,000	.045000	.005000			
20,400	102,000	.055000	.010000			
20,800	104,000	.0650	.0100			
21,200	106,000	.0750	.0100			
21,600	108,000	.0050	.0200			
21,800	109,000	.1800	.0850			Tensile strength.

General summary.

Specific gravity		7.8623
Tensile strength per square inch of original section	pounds..	109,000
Elastic limit per square inch of original section	do...	57,000
Elongation per inch after rupture	inch..	0.1950
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		§ inch from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".24*, ".15

No. 538.

Marks, $^{32\,B\,R_{15}}_{T_2}$
Length, 4″.50.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000300	.000200	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000650	.000150	0.	.....	
12,500	25,000	.000800	.000150	0.	.....	
15,000	30,000	.000950	.000150	0.	.....	
17,500	35,000	.001100	.000150	0.	.....	
20,000	40,000	.001250	.000150	0.	.....	
22,500	45,000	.001400	.000150	0.	.....	
25,000	50,000	.001550	.000150	0.	.....	
25,500	51,000	.001550	0.	.....	.....	
26,000	52,000	.001600	.000050	.....	.....	
26,500	53,000	.001600	0.	.....	.....	
27,000	54,000	.001650	.000050	.....	.....	
27,500	55,000	.001650	0.	0.	.....	
28,000	56,000	.001700	.000050	.....	.....	
28,500	57,000	.001700	0.	.....	.....	
29,000	58,000	.001750	.000050	.....	.....	
29,500	59,000	.001800	.000050	.....	.....	Elastic limit.
30,000	60,000	.001900	.000100	.000100	.000100	
30,500	61,000	.002050	.000150	.....	.....	
31,000	62,000	.002350	.000300	.....	.....	
31,500	63,000	.002750	.000400	.....	.....	
32,000	64,000	.003100	.000350	.....	.....	
32,500	65,000	.003700	.000600	.001300	.001200	
33,000	66,000	.004450	.000750	.....	.....	
33,500	67,000	.005000	.000550	.....	.....	
34,000	68,000	.005500	.000500	.....	.....	
34,500	69,000	.006000	.000500	.....	.....	
35,000	70,000	.006700	.000700	.004050	.002750	
53,420	106,840	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	59,000
Compression per inch under stress at elastic limit	inch..	.001900
Ultimate strength per square inch of original section	pounds..	106,840
Manner of failure		triple flexure

No. 1104.

Marks, $\frac{32\ B\ B_{20}}{T_1}$
Diameter, $''.505$.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000600	.000150	0.	.....	
6,000	30,000	.000800	.000200	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001200	.000200	0.	.....	
9,000	45,000	.001350	.000150	0.	.....	
10,000	50,000	.001500	.000150	0.	.....	
11,000	55,000	.001750	.000250	.000050	.000050	
11,200	56,000	.001850	.000100	.....	.....	
11,400	57,000	.001900	.000050	.....	.....	
11,600	58,000	.002050	.000150	.....	.....	
11,800	59,000	.002150	.000100	.....	.....	Elastic limit.
12,000	60,000	.002400	.000250	.000400	.000350	
12,400	62,000	.003300	.000900	.....	.....	
12,800	64,000	.004150	.000850	.....	.....	
13,200	66,000	.006250	.002100	.....	.....	
13,600	68,000	.007650	.001400	.....	.....	
14,000	70,000	.009350	.001700	.....	.....	
14,400	72,000	.011150	.001800	.....	.....	
14,800	74,000	.012250	.001100	.....	.....	
15,200	76,000	.013850	.001600	.....	.....	
15,600	78,000	.015600	.001750	.....	.....	
16,000	80,000	.017500	.001900	.....	.....	
16,400	82,000	.019450	.001950	.....	.....	
16,800	84,000	.021250	.001800	.....	.....	
17,200	86,000	.024150	.002900	.....	.....	
17,600	88,000	.026550	.002400	.....	.....	
18,000	90,000	.029000	.002450	.....	.....	
18,400	92,000	.031500	.002500	.....	.....	
18,800	94,000	.034500	.003000	.....	.....	
19,200	96,000	.038000	.003500	.....	.....	
19,600	98,000	.042300	.004300	.....	.....	
20,000	100,000	.049350	.007050	.....	.....	
20,400	102,000	.052000	.002650	.....	.....	
20,800	104,000	.061750	.009750	.....	.....	
21,200	106,000	.0750	.013250	.....	.....	
21,550	107,750	.1100	.0350	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8616
Tensile strength per square inch of original section	pounds..	107,750
Elastic limit per square inch of original section	do...	59,000
Elongation per inch after rupture	inch..	0.1650
Elongation per inch under strain at elastic limit	do...	.002150
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		$\frac{1}{4}$ inch from neck
Character of broken surface		granular; dull silky center
Elongation of inch sections		".25", ".08

No. 539.

Marks, $\frac{32\ B\ R_{30}}{T_2}$
Length, 4″.49.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001000	.000150	0.	.....	
20,000	40,000	.001200	.000200	0.	.....	
22,500	45,000	.001350	.000150	0.	.....	
25,000	50,000	.001550	.000200	0.	.....	
25,500	51,000	.001600	.000050	.....	.....	Elastic limit.
26,000	52,000	.001700	.000100	.....	.....	
26,500	53,000	.001950	.000250	.....	.....	
27,000	54,000	.002400	.000450	.....	.....	
27,500	55,000	.003050	.000650	.001200	.001200	
28,000	56,000	.004650	.001600	.....	.....	
28,500	57,000	.006000	.001350	.....	.....	
29,000	58,000	.007450	.001450	.....	.....	
29,500	59,000	.008950	.001500	.....	.....	
30,000	60,000	.010100	.001450	.007800	.006600	
50,480	100,960	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds.	51,000
Compression per inch under stress at elastic limit	inch..	0.001600
Ultimate strength per square inch of original section	pounds .	100,960
Manner of failure		triple flexure

No. 1105.

Marks, $\frac{32\ B\ Rs}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	.....	.....	
2,000	10,000	.000300	.000150	.....	.....	
3,000	15,000	.000450	.000150	.....	.....	
4,000	20,000	.000600	.000150	.....	.....	
5,000	25,000	.000750	.000150	.....	.....	
6,000	30,000	.000900	.000150	.....	.....	
7,000	35,000	.001050	.000150	.....	.....	
8,000	40,000	.001250	.000200	.....	.....	
9,000	45,000	.001400	.000150	.....	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	Elastic limit.
9,600	48,000	.001800	.000300	.....	.....	
9,800	49,000	.002350	.000550	.....	.....	
10,000	50,000	.002900	.000550	.001150	.001150	
10,200	51,000	.003400	.000500	.....	.....	
10,400	52,000	.003650	.000250	.....	.....	
10,600	53,000	.004150	.000500	.....	.....	
10,800	54,000	.004800	.000650	.....	.....	
11,000	55,000	.005400	.000600	.003350	.002200	
11,200	56,000	.006100	.000700	.....	.....	
11,400	57,000	.006550	.000450	.....	.....	
11,600	58,000	.007250	.000700	.....	.....	
11,800	59,000	.007900	.000650	.....	.....	
12,000	60,000	.008500	.000600	.006250	.002900	
12,400	62,000	.010000	.001500	.....	.....	
12,800	64,000	.011400	.001400	.....	.....	
13,200	66,000	.012900	.001500	.....	.....	
13,600	68,000	.014500	.001600	.....	.....	
14,000	70,000	.016000	.001500	.....	.....	
14,400	72,000	.017550	.001550	.....	.....	
14,800	74,000	.019300	.001950	.....	.....	
15,200	76,000	.021300	.001800	.....	.....	
15,600	78,000	.023700	.002100	.....	.....	
16,000	80,000	.026500	.002800	.....	.....	
16,400	82,000	.028250	.001750	.....	.....	
16,800	84,000	.031000	.002750	.....	.....	
17,200	86,000	.033700	.002700	.....	.....	
17,600	88,000	.037050	.003350	.....	.....	
18,000	90,000	.040000	.002950	.....	.....	
18,400	92,000	.043750	.003750	.....	.....	
18,800	94,000	.049150	.005400	.....	.....	
19,200	96,000	.055000	.005850	.....	.....	
19,600	98,000	.063000	.008000	.....	.....	
20,000	100,000	.0750	.0120	.....	.....	
20,400	102,000	.0950	.0200	.....	.....	
20,580	102,900	.1400	.0450	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8672
Tensile strength per square inch of original section	pounds..	102,900
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		½ inch from middle of stem
Character of broken surface		granular; dull spot near center
Elongation of inch sections		".26*, ".12

No. 540.

Marks, $\frac{32\ B\ R_{25}}{T_7}$.
Length, 4.″49.
Diameter, ″.797.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000600	.000150	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001050	.000150	0.	.....	
20,000	40,000	.001200	.000150	0.	.....	
22,500	45,000	.001350	.000150	0.	.....	
24,000	48,000	.001450	.000100	.....	.....	
24,500	49,000	.001450	0.	.....	.....	
25,000	50,000	.001500	.000050	0.	.....	Elastic limit.
25,500	51,000	.001800	.000300	.....	.....	
26,000	52,000	.002200	.000400	.....	.....	
26,500	53,000	.002450	.000250	.....	.....	
27,000	54,000	.002850	.000400	.....	.....	
27,500	55,000	.003400	.000550	.001500	.001500	
28,000	56,000	.003800	.000400	.....	.....	
28,500	57,000	.004350	.000550	.....	.....	
29,000	58,000	.004850	.000500	.....	.....	
29,500	59,000	.005500	.000650	.....	.....	
30,000	60,000	.006200	.000700	.004000	.002500	
47,050	95,900	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds...	50,000
Compression per inch under stress at elastic limit	inch...	0.001500
Ultimate strength per square inch of original section	pounds...	95,900
Manner of failure		triple flexure

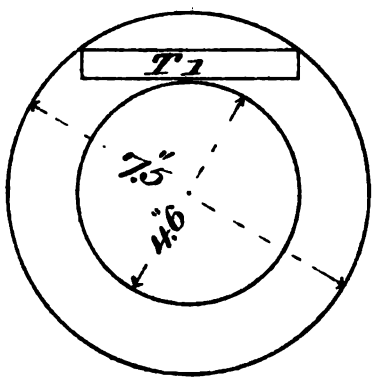
SPECIMENS FROM STEEL SLEEVES

FOR

3″.2 STEEL B. L. RIFLES.

Sleeve 3.2" Rifle

General drawing showing position from whence specimens were taken.



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SPECIMENS FROM STEEL SLEEVES FOR 3″.2 STEEL B. L. RIFLES.

No. 1106.

Marks, $\frac{22\,S_1}{T_1}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000400	.000100	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001450	.000150	0.	.....	
10,000	50,000	.001650	.000200	.000050	.000050	
11,000	55,000	.001800	.000150	.000050	0.	
11,200	56,000	.001850	.000050	.....	.....	
11,400	57,000	.001850	0.	.....	.....	
11,600	58,000	.001900	.000050	.....	.....	
11,800	59,000	.001950	.000050	.....	.....	
12,000	60,000	.002050	.000100	.000150	.000100	
12,200	61,000	.002100	.000050	.....	.....	Elastic limit.
12,400	62,000	.002300	.000200	.....	.....	
12,600	63,000	.002700	.000400	.....	.....	
12,800	64,000	.003050	.000350	.....	.....	
13,000	65,000	.003700	.000650	.....	.....	
13,200	66,000	.004350	.000650	.....	.....	
13,400	67,000	.005250	.000900	.....	.....	
13,600	68,000	.006250	.001000	.....	.....	
13,800	69,000	.006750	.000500	.....	.....	
14,000	70,000	.007250	.000500	.....	.....	
14,400	72,000	.009000	.001750	.....	.....	
14,800	74,000	.010850	.001850	.....	.....	
15,200	76,000	.012250	.001400	.....	.....	
15,600	78,000	.014300	.002050	.....	.....	
16,000	80,000	.015900	.001600	.....	.....	
16,400	82,000	.017900	.002000	.....	.....	
16,800	84,000	.019850	.001950	.....	.....	
17,200	86,000	.022650	.002800	.....	.....	
17,600	88,000	.024750	.002100	.....	.....	
18,000	90,000	.026850	.001900	.....	.....	
18,400	92,000	.029000	.002350	.....	.....	
18,800	94,000	.033000	.004000	.....	.....	
19,200	96,000	.036750	.003750	.....	.....	
19,600	98,000	.039000	.002250	.....	.....	
20,000	100,000	.042800	.003800	.....	.....	
20,400	102,000	.048150	.005350	.....	.....	
20,800	104,000	.055000	.006850	.....	.....	
21,200	106,000	.0650	.0100	.....	.....	
21,600	108,000	.0800	.0150	.....	.....	
21,900	109,500	.1400	.0600	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8621
Tensile strength per square inch of original section	pounds..	109,500
Elastic limit per square inch of original section	do...	61,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do...	.002100
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		at middle of stem
Character of broken surface		silky, 80 per centum; granular, 20 per centum
Elongation of inch sections		″.19*, ″.22*

No. 1107.

Marks, $\frac{32\ S_5}{T_1}$.
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
9,000	45,000	.001500	.000150	0.	.....	
10,000	50,000	.001650	.000150	.000050	.000050	
11,000	55,000	.001850	.000200	.000250	.000200	
11,200	56,000	.001950	.000100	.....	.....	Elastic limit.
11,400	57,000	.002250	.000300	.....	.....	
11,600	58,000	.002700	.000450	.....	.....	
11,800	59,000	.003200	.000500	.....	.....	
12,000	60,000	.003750	.000550	.001050	.001400	
12,400	62,000	.004800	.001050	.....	.....	
12,800	64,000	.006150	.001350	.....	.....	
13,200	66,000	.007750	.001600	.....	.....	
13,600	68,000	.009500	.001750	.....	.....	
14,000	70,000	.011000	.001500	.....	.....	
14,400	72,000	.012300	.001300	.....	.....	
14,800	74,000	.014000	.001700	.....	.....	
15,200	76,000	.016000	.002000	.....	.....	
15,600	78,000	.017600	.001600	.....	.....	
16,000	80,000	.019050	.001450	.....	.....	
16,400	82,000	.020900	.001850	.....	.....	
16,800	84,000	.023050	.002150	.....	.....	
17,200	86,000	.025100	.002050	.....	.....	
17,600	88,000	.028250	.003150	.....	.....	
18,000	90,000	.031250	.003000	.....	.....	
18,400	92,000	.032850	.001600	.....	.....	
18,800	94,000	.035750	.002900	.....	.....	
19,200	96,000	.040000	.004250	.....	.....	
19,600	98,000	.043750	.003750	.....	.....	
20,000	100,000	.049700	.005950	.....	.....	
20,400	102,000	.056000	.006300	.....	.....	
20,800	104,000	.0600	.0040	.....	.....	
21,200	106,000	.0850	.0250	.....	.....	
21,300	106,500	.1200	.0350	.....	.....	Tensile strength.

General summary.

Specific gravity	7.867
Tensile strength per square inch of original section ..... pounds..	106,500
Elastic limit per square inch of original section ..... do...	56,000
Elongation per inch after rupture ..... inch..	0.150
Elongation per inch under strain at elastic limit ..... do...	.00195
Reduction in diameter at point of rupture ..... do...	.085
Reduction in area after rupture, per centum of original section	29
Position of rupture	".55 from [illegible]
Character of broken surface	granular; dull cent[illegible]
Elongation of inch sections	".25". "06

No. 1108.

Marks, $\frac{32\ S_1^e}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000300	.000150	0.		
3,000	15,000	.000450	.000150	0.		
4,000	20,000	.000600	.000150	0.		
5,000	25,000	.000750	.000150	0.		
6,000	30,000	.000900	.000150			
7,000	35,000	.001050	.000150			
8,000	40,000	.001250	.000200			
9,000	45,000	.0014 0	.000150			
10,000	50,000	.001550	.000150	0.		
11,000	55,000	.001800	.000250	.000050	.000050	Elastic limit
11,200	56,000	.002050	.000250			
11,400	57,000	.002650	.000600			
11,600	58,000	.003550	.000900			
11,800	59,000	.004150	.000600			
12,000	60,000	.004800	.000650	.002050	.002000	
12,400	62,000	.006500	.001700			
12,800	64,000	.007700	.001200			
13,200	66,000	.009100	.001400			
13,600	68,000	.011000	.001900			
14,000	70,000	.012400	.001400			
14,400	72,000	.014100	.001700			
14,800	74,000	.015600	.001500			
15,200	76,000	.017300	.001700			
15,600	78,000	.019500	.002200			
16,000	80,000	.021250	.001750			
16,400	82,000	.023500	.002250			
16,800	84,000	.025850	.002350			
17,200	86,000	.028500	.002650			
17,600	88,000	.032000	.003500			
18,000	90,000	.035100	.003100			
18,400	92,000	.038550	.003450			
18,800	94,000	.042250	.003700			
19,200	96,000	.046750	.004500			
19,600	98,000	.051400	.004650			
20,000	100,000	.0600	.0086			
20,400	102,000	.0700	.0100			
20,800	104,000	.0900	.0200			
21,000	105,000	.1200	.0300			Tensile strength.

General summary.

Specific gravity		7.8636
Tensile strength per square inch of original section	pounds..	105,000
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		½ inch from middle of stem
Character of broken surface		granular, 50 per centum; dull, silky center, 50 per centum
Elongation of inch sections		".28", ".11

No. 1109.

Marks, $\frac{32\ S_{18}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0	.....	
3,000	15,000	.000400	.000150	0	.....	
4,000	20,000	.000550	.000150	0.	.....	
5,000	25,000	.000800	.000250	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001400	.000150	0.	.....	
10,000	50,000	.001550	.000150	0.	.....	
11,000	55,000	.001700	.000150	0.	.....	
11,200	56,000	.001800	.000100	.....	.....	
11,400	57,000	.001850	.000050	.....	.....	
11,600	58,000	.001900	.000050	.....	.....	
11,800	59,000	.002000	.000100	.....	.....	Elastic limit.
12,000	60,000	.002300	.000300	.000400	.000400	
12,400	62,000	.003200	.000900	.....	.....	
12,800	64,000	.004300	.001100	.....	.....	
13,200	66,000	.005350	.001050	.....	.....	
13,600	68,000	.006750	.001400	.....	.....	
14,000	70,000	.008450	.001700	.....	.....	
14,400	72,000	.009750	.001300	.....	.....	
14,800	74,000	.011300	.001550	.....	.....	
15,200	76,000	.013000	.001700	.....	.....	
15,600	78,000	.015000	.002000	.....	.....	
16,000	80,000	.016550	.001550	.....	.....	
16,400	82,000	.018300	.001750	.....	.....	
16,800	84,000	.020000	.001700	.....	.....	
17,200	86,000	.022500	.002500	.....	.....	
17,600	88,000	.024500	.002000	.....	.....	
18,000	90,000	.026600	.002100	.....	.....	
18,400	92,000	.029000	.002400	.....	.....	
18,800	94,000	.031700	.002700	.....	.....	
19,200	96,000	.034500	.002800	.....	.....	
19,600	98,000	.038200	.003700	.....	.....	
20,000	100,000	.041800	.003600	.....	.....	
20,400	102,000	.046500	.004700	.....	.....	
20,800	104,000	.052100	.005600	.....	.....	
21,200	106,000	.0600	.0079	.....	.....	
21,600	108,000	.0700	.0100	.....	.....	
22,000	110,000	.1050	.0350	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8655
Tensile strength per square inch of original section	pounds..	110,000
Elastic limit per square inch of original section	do...	59,000
Elongation per inch after rupture	inch..	0.1550
Elongation per inch under strain at elastic limit	do...	.002000
Reduction in diameter at point of rupture	do...	.085
Reduction in area after rupture, per centum of original section		30.7
Position of rupture		".40 from neck
Character of broken surface	granular; dull, silky center	
Elongation of inch sections		".23", ".08

No. 2191.

Marks, $\frac{32\ S_{16}}{T_1}$
Diameter, ".504.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	—.000050	—.000050	
2,000	10,000	.000200	.000100	—.000050	0.	
3,000	15,000	.000300	.000100	—.000050	0.	
4,000	20,000	.000400	.000100	—.000100	—.000050	
5,000	25,000	.000500	.000100	—.000100	0.	
6,000	30,000	.000700	.000200	—.000100	0.	
7,000	35,000	.000850	.000150	—.000100	0.	
8,000	40,000	.001100	.000250	—.000100	0.	
9,000	45,000	.001250	.000150	—.000100	0.	
10,000	50,000	.001450	.000200	—.000100	0.	
10,200	51,000	.001450	0.			
10,400	52,000	.001500	.000050			
10,600	53,000	.001550	.000050			
10,800	54,000	.001600	.000050			
11,000	55,000	.001600	0.	—.000100	0.	
11,200	56,000	.001650	.000050			
11,400	57,000	.001700	.000050			
11,600	58,000	.001750	.000050			Elastic limit.
11,800	59,000	.002000	.000250			
12,000	60,000	.002150	.000150	.000250	.000350	
12,200	61,000	.002600	.000450			
12,400	62,000	.002850	.000250			
12,600	63,000	.003200	.000350			
12,800	64,000	.003850	.000650			
13,000	65,000	.004500	.000650			
13,200	66,000	.005200	.000700			
13,400	67,000	.005800	.000600			
13,600	68,000	.006700	.000900			
13,800	69,000	.007800	.001100			
14,000	70,000	.009100	.001300			
14,400	72,000	.010600	.001500			
14,800	74,000	.012350	.001750			
15,200	76,000	.014350	.002000			
15,600	78,000	.016350	.002000			
16,000	80,000	.018150	.001800			
16,400	82,000	.020250	.002100			
16,800	84,000	.022600	.002350			
17,200	86,000	.025200	.002600			
17,600	88,000	.028000	.002800			
18,000	90,000	.030600	.002600			
18,400	92,000	.034050	.003450			
18,800	94,000	.038000	.003950			
19,200	96,000	.042550	.004550			
19,600	98,000	.047250	.004700			
20,000	100,000	.054500	.007250			
20,400	102,000	.0600	.0055			
20,800	104,000	.0900	.0300			
20,810	104,050					Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	104,050
Elastic limit per square inch of original section	do...	58,000
Elongation per inch after rupture	inch..	0.1300
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		23.9
Position of rupture		".55 from neck
Character of broken surface		granular; radiating from a dull spot at circumference
Elongation of inch sections		".18", ".08

[Additional specimens.]

No. 2407.

Marks, $\frac{32\ S_{16}}{T_2}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000450	.000100	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000650	.000100	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.000950	.000150	0.	.....	
8,000	40,000	.001100	.000150	0.	.....	
9,000	45,000	.001300	.000200	.....	.....	
10,000	50,000	.001500	.000200	.....	.....	
10,200	51,000	.001550	.000050	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001750	.000100	.....	.....	
11,000	55,000	.001800	.000050	.....	.....	
11,200	56,000	.001800	0.	.....	.....	Elastic limit.
11,400	57,000	.002500	.000700	.....	.....	
11,600	58,000	.002900	.000400	.....	.....	
11,800	59,000	.003600	.000700	.....	.....	
12,000	60,000	.004750	.001150	.....	.....	
12,400	62,000	.007000	.002250	.....	.....	
12,800	64,000	.009100	.002100	.....	.....	
13,200	66,000	.010600	.001500	.....	.....	
13,600	68,000	.012500	.001900	.....	.....	
14,000	70,000	.014250	.001750	.....	.....	
14,400	72,000	.016150	.001900	.....	.....	
14,800	74,000	.018100	.001950	.....	.....	
15,200	76,000	.020250	.002150	.....	.....	
15,600	78,000	.022250	.002000	.....	.....	
16,000	80,000	.025250	.003000	.....	.....	
16,400	82,000	.028000	.002750	.....	.....	
16,800	84,000	.031000	.003000	.....	.....	
17,200	86,000	.035000	.004000	.....	.....	
17,600	88,000	.038050	.003050	.....	.....	
18,000	90,000	.042550	.004500	.....	.....	
18,400	92,000	.0500	.007450	.....	.....	
18,800	94,000	.0550	.0050	.....	.....	
19,200	96,000	.0600	.0050	.....	.....	
19,600	98,000	.0900	.0300	.....	.....	
19,680	98,400	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	98,400
Elastic limit per square inch of original section	do...	56,800
Elongation per inch after rupture	inch..	0.1000
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.053
Reduction in area after rupture, per centum of original section		12.5
Position of rupture		".75 from neck
Character of broken surface		granular; crack in stem near point of rupture
Elongation of inch sections		".11", ".09

No. 2505.

Marks, $\frac{32\ S_{28}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000300	.000200	0.		
3,000	15,000	.000450	.000150	0.		
4,000	20,000	.000650	.000200	0.		
5,000	25,000	.000850	.000200	0.		
6,000	30,000	.001000	.000150	0.		
7,000	35,000	.001200	.000200	0.		
8,000	40,000	.001400	.000200	0.		
9,000	45,000	.001550	.000150	0.		
10,000	50,000	.001700	.000150	0.		
10,200	51,000	.001750	.000050			
10,400	52,000	.001800	.000050			
10,600	53,000	.001800	0.			
10,800	54,000	.001900	.000100			Elastic limit.
11,000	55,000	.003000	.001100			
11,200	56,000	.006000	.003000			
11,400	57,000	.006750	.000750			
11,600	58,000	.007500	.000750			
11,800	59,000	.008250	.000750			
12,000	60,000	.009100	.000850			
12,400	62,000	.010950	.001850			
12,800	64,000	.012600	.001650			
13,200	66,000	.014500	.001900			
13,600	68,000	.016250	.001750			
14,000	70,000	.018250	.002000			
14,400	72,000	.020950	.002700			
14,800	74,000	.022700	.001750			
15,200	76,000	.025250	.002550			
15,600	78,000	.027850	.002600			
16,000	80,000	.030900	.003050			
16,400	82,000	.034050	.003150			
16,800	84,000	.037750	.003700			
17,200	86,000	.041800	.004050			
17,600	88,000	.048600	.006800			
18,000	90,000	.055100	.006500			
18,400	92,000	.0600	.0049			
18,800	94,000	.0750	.0150			
19,200	96,000	.1000	.0250			
19,400	97,000	.1400	.0400			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	97,000
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.165
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		".65 from neck
Character of broken surface		silky
Elongation of inch sections		".37", ".13

No. 2192.

Marks, $\frac{32\ S_{11}}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000300	.000100	0.	.....	
4,000	20,000	.000450	.000150	0.	.....	
5,000	25,000	.000600	.000150	0.	.....	
6,000	30,000	.000800	.000200	0.	.....	
7,000	35,000	.001000	.000200	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001350	.000200	0.	.....	
10,000	50,000	.001550	.000200	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001700	0.	.....	.....	Elastic limit.
11,000	55,000	.002000	.000300	.....	.....	
11,200	56,000	.002900	.000900	.....	.....	
11,400	57,000	.003450	.000550	.....	.....	
11,600	58,000	.003950	.000500	.....	.....	
11,800	59,000	.004500	.000550	.....	.....	
12,000	60,000	.005400	.000900	.....	.....	
12,400	62,000	.006750	.001350	.....	.....	
12,800	64,000	.008500	.001750	.....	.....	
13,200	66,000	.010000	.001500	.....	.....	
13,600	68,000	.012200	.002200	.....	.....	
14,000	70,000	.014250	.002050	.....	.....	
14,400	72,000	.016250	.002000	.....	.....	
14,800	74,000	.018000	.001750	.....	.....	
15,200	76,000	.020000	.002000	.....	.....	
15,600	78,000	.021850	.001850	.....	.....	
16,000	80,000	.024300	.002450	.....	.....	
16,400	82,000	.027000	.002700	.....	.....	
16,800	84,000	.029550	.002550	.....	.....	
17,200	86,000	.033000	.003450	.....	.....	
17,600	88,000	.037000	.004000	.....	.....	
18,000	90,000	.040800	.003800	.....	.....	
18,400	92,000	.045350	.004550	.....	.....	
18,800	94,000	.051500	.006150	.....	.....	
19,200	96,000	.0600	.0085	.....	.....	
19,600	98,000	.0750	.0150	.....	.....	
20,000	100,000	.1000	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,000
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1000
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		44.3
Position of rupture		".40 from neck
Character of broken surface		granular; dull center
Elongation of inch sections		".30", ".08

No. 2193.

Marks, $\frac{32\ Sus}{T_1}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000450	.000250	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001400	.000150	0.	.....	
10,000	50,000	.001550	.000150	0.	.....	
10,200	51,000	.001600	.000050	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001700	0.	.....	.....	Elastic limit.
11,000	55,000	.001900	.000200	.....	.....	
11,200	56,000	.002100	.000200	.....	.....	
11,400	57,000	.002400	.000300	.....	.....	
11,600	58,000	.002950	.000550	.....	.....	
11,800	59,000	.003600	.000650	.....	.....	
12,000	60,000	.004650	.001050	.....	.....	
12,400	62,000	.006300	.001650	.....	.....	
12,800	64,000	.007800	.001500	.....	.....	
13,200	66,000	.009200	.001400	.....	.....	
13,600	68,000	.010750	.001550	.....	.....	
14,000	70,000	.012800	.002050	.....	.....	
14,400	72,000	.014500	.001700	.....	.....	
14,800	74,000	.016000	.001500	.....	.....	
15,200	76,000	.018000	.002000	.....	.....	
15,600	78,000	.019650	.001650	.....	.....	
16,000	80,000	.021500	.001850	.....	.....	
16,400	82,000	.024000	.002500	.....	.....	
16,800	84,000	.026800	.002800	.....	.....	
17,200	86,000	.029000	.002200	.....	.....	
17,600	88,000	.031500	.002500	.....	.....	
18,000	90,000	.034350	.002850	.....	.....	
18,400	92,000	.038000	.003650	.....	.....	
18,800	94,000	.041500	.003500	.....	.....	
19,200	96,000	.046550	.005050	.....	.....	
19,600	98,000	.052700	.006150	.....	.....	
20,000	100,000	.0600	.0073	.....	.....	
20,400	102,000	.0700	.0100	.....	.....	
20,800	104,000	.0900	.0200	.....	.....	
20,890	104,450	.1150	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	104,450
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		".4 from neck
Character of broken surface		granular; dull center
Elongation of inch sections		".25*, ".09

SPECIMENS FROM STEEL OBTURATOR STEMS

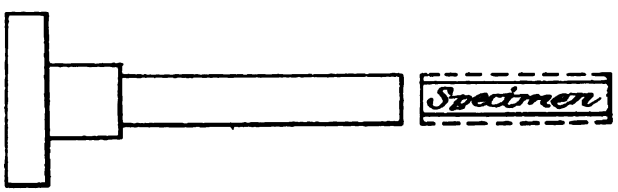
FOR

3″.2 STEEL B. L. RIFLES.

505

Obturator Stem 3.2" Rifle

General drawing showing position from whence specimens were taken.



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SPECIMENS FROM STEEL OBTURATOR STEMS FOR 3″.2 STEEL B. L. RIFLES.

No. 556.

Marks, $\frac{32\ O\ S_1}{L_1}$
Length, 4″.49.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001150	.000250	0.	.....	
20,000	40,000	.001200	.000050	0.	.....	
22,500	45,000	.001350	.000150	0.	.....	
25,000	50,000	.001500	.000150	0.	.....	
25,500	51,000	.001500	0.	.....	.....	
26,000	52,000	.001550	.000050	.....	.....	
26,500	53,000	.001550	0.	.....	.....	
27,000	54,000	.001600	.000050	.....	.....	
27,500	55,000	.001650	.000050	0.	.....	
28,000	56,000	.001650	0.	.....	.....	
28,500	57,000	.001700	.000050	.....	.....	
29,000	58,000	.001750	.000050	.....	.....	
29,500	59,000	.001750	0.	.....	.....	
30,000	60,000	.001800	.000050	0.	.....	Elastic limit.
30,500	61,000	.002000	.000200	.....	.....	
31,000	62,000	.002300	.000300	.....	.....	
31,500	63,000	.002750	.000450	.....	.....	
32,000	64,000	.003250	.000500	.....	.....	
32,500	65,000	.004000	.000750	.001800	.001800	
54,700	109,400	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	60,000
Compression per inch under stress at elastic limit	inch..	0.001800
Ultimate strength per square inch of original section	pounds..	109,400
Manner of failure		triple flexure

No. 557.

Marks, $\frac{32\ O\ S_8}{L_1}$
Length, 4″.50.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000300	.000150	0.	.....	
7,500	15,000	.000450	.000150	0.	.....	
10,000	20,000	.000600	.000150	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001050	.000150	0.	.....	
20,000	40,000	.001200	.000150	0.	.....	
22,500	45,000	.001350	.000150	0.	.....	
25,000	50,000	.001500	.000150	0.	.....	
25,500	51,000	.001500	0.	.....	.....	
26,000	52,000	.001550	.000050	.....	.....	
26,500	53,000	.001550	0.	.....	.....	
27,000	54,000	.001600	.000050	.....	.....	
27,500	55,000	.001600	0.	0.	.....	
28,000	56,000	.001650	.000050	.....	.....	
28,500	57,000	.001650	0.	.....	.....	
29,000	58,000	.001700	.000050	.....	.....	
29,500	59,000	.001700	0.	.....	.....	
30,000	60,000	.001750	.000050	.000050	.000050	Elastic limit.
30,500	61,000	.001950	.000200	.....	.....	
31,000	62,000	.002350	.000400	.....	.....	
31,500	63,000	.002800	.000450	.....	.....	
32,000	64,000	.003300	.000500	.....	.....	
32,500	65,000	.004000	.000700	.001950	.001900	
55,450	110,900	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	60,00
Compression per inch under stress at elastic limit	inch..	0.001750
Ultimate strength per square inch of original section	pounds..	110,900
Manner of failure		triple flexure

No. 558.

Marks, $\frac{32\,O\,S_{10}}{L_1}$
Length, 4″.50.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001100	.000200	0.	.....	
20,000	40,000	.001300	.000200	0.	.....	
22,500	45,000	.001500	.000200	0.	.....	
25,000	50,000	.001650	.000150	0.	.....	
25,500	51,000	.001700	.000050	.....	.....	
26,000	52,000	.001750	.000050	.....	.....	
26,500	53,000	.001750	0.	.....	.....	
27,000	54,000	.001800	.000050	.....	.....	
27,500	55,000	.001800	0.	0.	.....	
28,000	56,000	.001850	.000050	.....	.....	
28,500	57,000	.001900	.000050	.....	.....	
29,000	58,000	.001900	.000050	.....	.....	
29,500	59,000	.001950	0.	.....	.....	
30,000	60,000	.002000	.000050	0.	.....	
30,500	61,000	.002000	0.	.....	.....	
31,000	62,000	.002050	.000050	.....	.....	
31,500	63,000	.002050	0.	.....	.....	
32,000	64,000	.002100	.000050	.....	.....	
32,500	65,000	.002150	.000050	0.	.....	
33,000	66,000	.002200	.000050	.....	.....	
33,500	67,000	.002200	0.	.....	.....	
34,000	68,000	.002250	.000050	.....	.....	
34,500	69,000	.002300	.000050	.....	.....	
35,000	70,000	.002300	0.	— .000150	— .000150	
35,500	71,000	.002350	.000050	.....	.....	
36,000	72,000	.002350	0.	.....	.....	
36,500	73,000	.002400	.000050	.....	.....	Elastic limit.
37,000	74,000	.002750	.000350	.....	.....	
37,500	75,000	.003250	.000500	.000600	.000750	
55,380	110,760	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	73,000
Compression per inch under stress at elastic limit	inch..	0.002400
Ultimate strength per square inch of original section	pounds..	110,760
Manner of failure		triple flexure

No. 559.

Marks, $\frac{32\ O\ S_{18}}{L_1}$
Length, 4″.50.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001050	.000150	0.	.....	
20,000	40,000	.001250	.000200	0.	.....	
22,500	45,000	.001400	.000150	0.	.....	
25,000	50,000	.001550	.000150	0.	.....	
25,500	51,000	.001600	.000050	.....	.....	
26,000	52,000	.001650	.000050	.....	.....	
26,500	53,000	.001650	0.	.....	.....	
27,000	54,000	.001700	.000050	.....	.....	
27,500	55,000	.001700	0.	0.	.....	
28,000	56,000	.001750	.000050	.....	.....	
28,500	57,000	.001800	.000050	.....	.....	Elastic limit.
29,000	58,000	.002050	.000250	.....	.....	
29,500	59,000	.002800	.000750	.....	.....	
30,000	60,000	.003800	.001000	.001550	.001550	
30,500	61,000	.004700	.000900	.....	.....	
31,000	62,000	.005500	.000800	.....	.....	
31,500	63,000	.006550	.001050	.....	.....	
32,000	64,000	.007750	.001200	.....	.....	
32,500	65,000	.008750	.001000	.006100	.004550	
52,240	104,480	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	57,000
Compression per inch under stress at elastic limit	inch..	0.001800
Ultimate strength per square inch of original section	pounds..	104,480
Manner of failure		triple flexure

No. 560.

Marks, $\frac{32\ O\ S_{28}}{L_1}$
Length, 4″.49.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000850	.000100	0.	.....	
17,500	35,000	.001000	.000150	0.	.....	
20,000	40,000	.001150	.000150	0.	.....	
22,500	45,000	.001350	.000200	0.	.....	
25,000	50,000	.001550	.000200	0.	.....	
25,500	51,000	.001550	0.	.....	.....	
26,000	52,000	.001600	.000050	.....	.....	
26,500	53,000	.001650	.000050	.....	.....	
27,000	54,000	.001700	.000050	.....	.....	
27,500	55,000	.001700	0.	0.	.....	
28,000	56,000	.001750	.000050	.....	.....	
28,500	57,000	.001750	0.	.....	.....	
29,000	58,000	.001800	.000050	.....	.....	
29,500	59,000	.001800	0.	.....	.....	
30,000	60,000	.001850	.000050	0.	.....	
30,500	61,000	.001900	.000050	.....	.....	
31,000	62,000	.002000	.000100	.....	.....	
31,500	63,000	.002100	.000100	.....	.....	Elastic limit.
32,000	64,000	.002400	.000300	.....	.....	
32,500	65,000	.002900	.000500	.000700	.000700	
33,000	66,000	.003300	.000400	.....	.....	
33,500	67,000	.003650	.000350	.....	.....	
34,000	68,000	.004050	.000400	.....	.....	
34,500	69,000	.004400	.000350	.....	.....	
35,000	70,000	.004850	.000450	.002400	.001700	
56,580	113,160	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	63,000
Compression per inch under stress at elastic limit	inch..	0.002100
Ultimate strength per square inch of original section	pounds..	113,160
Manner of failure		triple flexure

No. 561.

Marks, $^{32}\,O\,S_{25}$ L_1
Length, 4″.49.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000250	.000250	0.	.....	
5,000	10,000	.000400	.000150	0.	.....	
7,500	15,000	.000550	.000150	0.	.....	
10,000	20,000	.000750	.000200	0.	.....	
12,500	25,000	.000900	.000150	0.	.....	
15,000	30,000	.001050	.000150	0.	.....	
17,500	35,000	.001250	.000200	0.	.....	
20,000	40,000	.001400	.000150	0.	.....	
22,500	45,000	.001550	.000150	0.	.....	
25,000	50,000	.001700	.000150	.000050	.000050	
25,500	51,000	.001700	0.	.....	.....	
26,000	52,000	.001750	.000050	.....	.....	
26,500	53,000	.001750	0.	.....	.....	
27,000	54,000	.001800	.000050	.....	.....	
27,500	55,000	.001850	.000050	.000050	0.	
28,000	56,000	.001850	0.	.....	.....	
28,500	57,000	.001900	.000050	.....	.....	
29,000	58,000	.001950	.000050	.....	.....	
29,500	59,000	.001950	0.	.....	.....	
30,000	60,000	.002000	.000050	.000050	0.	
30,500	61,000	.002050	.000050	.....	.....	
31,000	62,000	.002100	.000050	.....	.....	
31,500	63,000	.002150	.000050	.....	.....	
32,000	64,000	.002250	.000100	.....	.....	
32,500	65,000	.002300	.000050	.000250	.000200	Elastic limit.
33,000	66,000	.002750	.000450	.....	.....	
33,500	67,000	.003150	.000400	.....	.....	
34,000	68,000	.003650	.000500	.....	.....	
34,500	69,000	.004100	.000450	.....	.....	
35,000	70,000	.004500	.000400	.002150	.001900	
56,080	112,160	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section .....pounds.. 65,[illegible]
Compression per inch under stress at elastic limit.....inch.. 0.002[illegible]
Ultimate strength per square inch of original section.....pounds.. 112,16[illegible]
Manner of failure .....triple flexure

TABULATION OF TENSION SPECIMENS FROM TUBES FOR 3″.2 B. L. RIFLES.

[Location of specimens: Inside.]

No. of test.	Position in gun.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.
		Pounds.	*Pounds.*	*Per ct.*	*Per ct.*		
1689	Breech No. 1	50,000	85,350	24.0	51.9	Silky	7.8615
1690	do	49,000	84,900	20.0	40.3	do	
1691	Muzzle No. 1	48,000	85,200	15.0	34.0	Granular; dull spot	
1692	do	43,000	80,100	20.0	49.1	Silky	
*2274	do	43,000	81,050	25.0	40.3	Granular; dull spot	
*2275	do	48,000	84,400	15.0	23.9	do	
†2590	Breech No. 1	56,000	93,400	18.5	40.3	Silky; flaky	
†2591	do	55,000	96,000	20.5	37.1	Silky, 80 per cent.; granular, 20 per cent.	
†2592	Muzzle No. 1	54,000	94,600	26.5	43.3	Silky; flaky	
†2593	do	53,000	91,900	23.5	41.3	Silky	
2596	Breech No. 2	49,000	88,500	24.5	43.3	Silky; slightly granular	
2597	do	44,000	86,250	25.0	46.2	do	
2198	Muzzle No. 2	48,000	85,350	24.0	46.2	Silky; trace of granulation	
2199	do	48,000	86,600	25.0	46.2	Silky	
1651	Breech No. 3	58,000	95,100	23.5	49.1	Silky; trace of granulation	7.8705
1652	do	54,000	92,750	23.0	49.1	Silky	
1653	Muzzle No. 3	54,000	92,900	12.0	13.0	Granular; flaky spot	
1654	do	54,000	93,400	19.5	43.3	Granular, 50 per cent.; silky, 50 per cent.	
*2238	do	49,000	80,700	28.5	51.9	Silky	
*2239	do	39,000	74,350	28.5	49.1	do	
†2700	Breech No. 3	52,000	93,750	23.5	46.2	do	
†2701	do	54,000	97,450	18.0	34.0	Granular; dull flaky center	
†2702	Muzzle No. 3	56,000	99,100	22.0	40.3	Granular, 20 per cent.; silky, 80 per cent.	
†2703	do	56,000	100,800	17.0	34.0	Granular; silky center	
1655	Breech No. 4	46,000	84,900	25.0	49.1	Silky	7.8724
1656	do	44,000	80,400	20.5	37.1	Granular, 50 per cent.; silky, 50 per cent.	
1657	Muzzle No. 4	53,000	90,050	21.5	49.1	Silky	
1658	do	50,000	86,850	22.5	46.2	do	
2240	Breech No. 5	49,000	85,150	22.5	51.9	do	7.8651
2241	do	46,000	85,700	23.5	51.9	Silky; trace of granulation	
2242	Muzzle No. 5	55,000	84,500	22.5	54.6	Silky	
2243	do	53,000	86,050	20.5	49.1	do	
1693	Breech No. 6	54,000	89,350	21.0	40.3	Granular; dull center	7.8702
1694	do	56,000	89,950	25.5	51.9	Silky	
1695	Muzzle No. 6	51,000	87,100	24.5	51.9	do	
1696	do	53,000	89,300	23.5	51.9	do	
2200	Breech No. 7	58,000	92,450	23.5	49.1	Granular; silky center	
2201	do	57,000	91,950	17.0	46.2	Granular, 50 per cent.; silky, 50 per cent.	
2202	Muzzle No. 7	50,000	83,000	24.0	49.1	Silky	
2203	do	52,000	86,000	22.5	49.1	do	
1659	Breech No. 8	49,000	91,600	22.5	46.2	do	
1660	do	49,000	91,300	20.0	43.3	do	
1661	Muzzle No. 8	53,000	87,350	22.0	46.2	do	
1662	do	54,000	88,700	24.5	43.3	do	
2204	Breech No. 9	56,000	90,450	24.5	46.2	Granular, 60 per cent.; silky, 40 per cent.	
2205	do	59,000	93,050	20.0	43.3	Granular; dull silky center	
2206	Muzzle No. 9	56,000	92,400	21.0	43.3	Granular, 60 per cent.; silky, 40 per cent.	
2207	do	55,000	90,100	21.5	46.2	Silky	
1176	Breech No. 10	50,000	86,300	27.0	49.1	do	
1177	do	50,000	87,550	23.5	37.1	do	
1178	Muzzle No. 10	49,000	87,500	20.0	49.1	do	
1179	do	50,000	89,050	20.0	46.2	do	
1663	Breech No. 11	49,000	90,550	21.5	49.1	Silky	7.8657
1664	do	51,000	92,400	25.0	49.1	Silky; trace of granulation	
1665	Muzzle No. 11	50,000	92,450	20.5	43.3	do	
1666	do	55,000	91,950	21.5	46.2	Silky	
1163	Breech No. 12	54,000	92,250	20.5	43.3	do	7.8654
1164	do	54,000	89,050	22.5	49.1	do	
1165	Muzzle No. 12	52,000	90,400	22.5	40.3	Silky, 90 per cent.; granular, 10 per cent.	7.8601
1166	do	53,000	89,400	19.0	40.3	Silky	
1167	Breech No. 13	53,000	91,950	19.5	46.2	do	
1168	do	53,000	90,300	19.0	46.2	do	
1169	Muzzle No. 13	53,000	95,550	18.5	43.3	Silky, 50 per cent.; granular, 50 per cent.	7.8500

* Additional specimen.

† New tube.

TABULATION OF TENSION SPECIMENS, ETC.—Continued.

[Location of specimens: Inside.]

No. of test.	Position in gun.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.
		Pounds.	*Pounds.*	*Per ct.*	*Per ct.*		
1170	Muzzle No. 13..	59,000	93,400	17.0	40.3	Silky, 40 per cent.; granular, 60 per cent.	.....
*2244	Breech No. 13...	49,000	84,850	22.0	46.2	Silky	.....
*2245	....do	50,000	86,200	21.5	49.1	.....do	.....
*2246	Muzzle No. 13...	43,000	80,000	24.0	40.3	Silky, 50 per cent.; granular, 50 per cent.	.....
*2247	....do	41,000	79,800	21.5	40.3	.....do	.....
1667	Breech No. 14...	57,000	96,200	16.5	30.7	Silky center, 40 per cent.; granular, 60 per cent.	7.8589
1668	....do	58,000	100,000	15.0	34.0	Silky center; granular at circumference.	.....
1669	Muzzle No. 14...	55,000	90,400	19.0	40.3	Silky	.....
1670	....do	54,000	91,800	20.0	46.2	Silky; trace of granulation	.....
*2248	Breech No. 14...	47,000	86,850	20.0	37.1	Granular; dull center	.....
*2249	....do	48,000	88,250	19.0	37.1	Granular, 60 per cent.; dull silky, 40 per cent.	.....
*2251	Muzzle No. 14...	49,000	84,750	21.0	43.3	Silky, trace of granulation	.....
2250	....do	47,000	82,250	21.5	49.1	Silky	.....
2230	Breech No. 15...	53,000	85,850	21.0	43.3	.....do	.....
2231	....do	55,000	88,900	24.0	46.2	.....do	.....
2232	Muzzle No. 15...	51,000	84,000	23.0	43.3	Silky; trace of granulation	.....
2233	....do	50,000	82,500	20.5	46.2	Silky	.....
2399	Breech No. 16...	52,000	89,400	7.0	9.5	Granular; flaky spot	.....
2400	....do	49,000	83,750	6.0	9.5	Granular; flaky line	.....
2401	Muzzle No. 16...	51,000	86,900	23.5	43.3	Silky	.....
2402	....do	50,000	86,600	20.0	43.3	.....do	.....
*2447	Breech No. 16...	51,000	91,950	19.0	37.1	Granular; dull flaky center	.....
*2448	....do	49,000	90,100	7.5	9.5	Granular; flaky spot	.....
†2674	....do	47,000	91,100	20.5	37.1	Granular, 60 per cent.; silky, 40 per cent.	.....
†2675	....do	47,000	90,750	21.5	43.3	Granular, 40 per cent.; silky, 60 per cent.	.....
†2676	Muzzle No. 16...	47,000	87,150	24.0	49.1	Silky	.....
†2677	....do	45,000	85,050	21.5	46.2	.....do	.....
2234	Breech No. 17...	49,000	84,600	23.5	40.3	Dull silky, 50 per cent.; granular, 50 per cent.	.....
2235	....do	49,000	82,850	21.5	40.3	Silky, 90 per cent.; granular, 10 per cent.	.....
2236	Muzzle No. 17...	44,000	81,250	21.5	43.3	Silky; slightly granular	.....
2237	....do	45,000	80,950	22.5	46.2	.....do	.....
2264	Breech No. 18...	48,000	87,600	21.0	43.3	Silky; with fine granulation	.....
2265	....do	50,000	89,200	18.5	37.1	Granular; dull center	.....
2266	Muzzle No. 18...	45,000	79,250	20.5	43.3	.....do	.....
2267	....do	44,000	82,400	20.5	49.1	Silky	.....
1184	Breech No. 19...	52,000	87,450	23.0	43.3	.....do	7.8767
1185	....do	50,000	87,450	21.5	43.3	.....do	.....
1186	Muzzle No. 19...	48,000	88,700	24.0	43.3	.....do	.....
1187	....do	50,000	89,450	23.5	40.2	Silky; trace of granulation	.....
1180	Breech No. 20...	50,000	88,500	20.5	46.2	Silky	7.8665
1181	....do	52,000	92,250	21.0	43.3	Silky, 85 per cent.; granular, 15 per cent.	.....
1182	Muzzle No. 20...	49,000	86,450	25.0	51.9	Silky	.....
1183	....do	49,000	88,800	21.0	43.3	.....do	.....
2258	Breech No. 21...	51,000	88,450	23.5	46.2	.....do	.....
2259	....do	48,000	86,500	21.0	46.2	.....do	.....
2260	Muzzle No. 21...	47,000	86,050	20.5	46.2	.....do	.....
2261	....do	50,000	90,250	18.5	40.3	Silky; with fine granulation	.....
1697	Breech No. 22...	40,000	80,300	23.5	40.3	Dull, silky, and granular	.....
1698	....do	39,000	79,900	26.0	43.3	.....do	.....
1699	Muzzle No. 22...	45,000	83,400	26.0	46.2	Silky	.....
1700	....do	53,000	89,950	24.0	43.3	.....do	.....
*2506	Breech No. 22...	41,000	75,500	27.5	51.9	.....do	.....
*2507	....do	42,000	77,400	24.0	34.0	Granular, 60 per cent.; dull, flaky, 40 per cent.	.....
*2508	Muzzle No. 22...	52,000	85,050	25.0	46.2	Silky	.....
*2509	....do	53,000	87,450	27.0	46.2	.....do	.....
1701	Breech No. 23...	53,000	94,050	23.0	40.3	Granular; dull center	.....
1702	....do	52,000	93,000	24.0	40.3	.....do	.....
1703	Muzzle No. 23...	56,000	93,350	20.0	40.3	.....do	.....
1705	....do	57,000	93,900	21.0	43.3	.....do	.....
2047	Breech No. 24...	40,000	77,300	26.0	46.2	Silky	.....
2048	....do	39,000	78,300	26.5	40.3	Granular, 40 per cent.; dull, silky, 60 per cent.	.....

*Additional specimen.

† New tube.

TABULATION OF TENSION SPECIMENS, ETC.—Continued.

[Location of specimens: Inside.]

No. of test.	Position in gun.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.
		Pounds.	*Pounds.*	*Per ct.*	*Per ct.*		
2049	Muzzle No. 24...	48,000	85,850	24.0	46.2	Silky	.....
2050	....do	53,000	90,300	23.0	40.3	Silky, 40 per cent.; granular, 60 per cent.	.....
*2403	Breech No. 24...	42,000	75,300	22.0	49.1	Silky	.....
*2404	....do	48,000	81,500	24.5	49.1	.....do	.....
*2405	Muzzle No. 24...	47,000	80,600	20.5	49.1	.....do	.....
*2406	....do	54,000	84,100	23.5	46.2	.....do	.....
*2605	Breech No. 24...	55,000	90,400	21.5	46.2	.....do	.....
*2606	....do	49,000	88,250	21.5	46.2	.....do	.....
*2607	Muzzle No. 24...	46,000	88,950	24.0	49.1	.....do	.....
*2608	....do.	47,000	84,500	8.5	13.2	Granular; flaky spot	.....
1706	Breech No. 25...	48,000	85,750	24.5	51.9	Silky	.....
1707	....do	47,000	83,950	25.5	51.9	.....do	....
1708	Muzzle No. 25...	52,000	88,500	25.5	51.9	.....do	....
1709	....do	45,000	83,000	21.5	51.9	.....do	....

* Additional specimen.

TABULATION OF COMPRESSION SPECIMENS FROM TUBES FOR 3″.2 B. L RIFLES.

[Location of specimens: Inside.]

No. of test.	Position in gun.	Elastic limit per square inch.	Ultimate strength per square inch.	Manner of failure.
		Pounds.	*Pounds.*	
576	Breech No. 1	.....	94,400	Triple flexure.
*671	Breech No. 1	48,000	94,200	Do.
614	Breech No. 2	45,000	89,600	Do.
567	Breech No. 3	58,000	99,000	Do.
*670	Breech No. 3	47,000	99,380	Do.
568	Breech No. 4	40,000	88,080	Do.
622	Breech No. 5	48,000	93,600	Do.
577	Breech No. 6	54,000	96,600	Do.
615	Breech No. 7	54,000	95,200	Do.
569	Breech No. 8	48,000	95,300	Do.
616	Breech No. 9	62,000	97,600	Do.
564	Breech No. 10	50,000	90,200	Do.
570	Breech No. 11	50,000	96,600	Do.
562	Breech No. 12	57,000	95,720	Do.
563	Breech No. 13	58,000	96,180	Do.
†623	Breech No. 13	48,000	92,200	Do.
571	Breech No. 14	56,000	101,960	Do.
†624	Breech No. 14	47,000	92,600	Do.
620	Breech No. 15	50,000	93,800	Do.
647	Breech No. 16	49,000	93,000	Do.
†668	Breech No. 16	48,000	91,200	Do.
*702	Breech No. 16	47,000	90,420	Do.
621	Breech No. 17	48,000	88,800	Do.
632	Breech No. 18	46,000	89,400	Do.
565	Breech No. 19	52,000	90,900	Do.
566	Breech No. 20	50,000	90,220	Do.
631	Breech No. 21	49,000	89,980	Do.
578	Breech No. 22	36,000	87,600	Do.
653	Breech No. 22	43,000	76,020	Do.
579	Breech No. 23	.....	96,200	Do.
583	Breech No. 24	40,000	87,600	Do.
†648	Breech No. 24	38,000	81,300	Do.
†677	Breech No. 24	47,000	84,200	Do.
†685	Breech No. 25	50,000	91,600	Do.

* New tube. † Additional specimen.

TABULATION OF TENSION SPECIMENS FROM JACKETS FOR 3"2 B. L. RIFLES.

[Location of specimens: Middle.]

No. of test.	Position in gun.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.
		Pounds.	*Pounds.*	*Per ct.*	*Per ct.*		
962	Breech No. 1....	52, 000	99, 700	20.0	40.5	Dull silky	7. 8695
963	....do	50, 000	95, 000	16.5	24.0	Granular, 70 per cent.; silky, 30 per cent.; blow-hole.	.....
964	Breech No. 2....	60, 000	106, 000	16.5	30.5	Granular line of silky metal.	7. 8656
965	....do	57, 000	99, 400	18.5	43.5	Silky; trace of granulation	.....
986	Muzzle No. 3....	60, 000	107, 300	13.0	13.2	Granular line of dull metal.	7. 8598
987	....do	57, 000	107, 250	15.0	23.9	Granular	.....
*2082	....do	50, 000	96, 600	21.5	40.3	Granular; dull center	.....
*2083	....do	50, 000	94, 600	21.5	30.7	Granular	.....
*2084	....do	49, 000	94, 250	10.5	13.2	Granular line of dull-colored metal.	.....
*2396	....do	51, 000	99, 700	20.5	43.3	Silky, with granular metal.	.....
*2397	....do	49, 000	96, 400	22.0	43.3	Silky; traces of granulation	.....
*2398	....do	49, 000	95, 250	14.5	20.5	Granular line of flaky metal	.....
966	Muzzle No. 4....	59, 000	104, 100	10.5	13.5	Granular line of silky metal.	7. 8668
967	....do	52, 000	104, 000	18.0	1[illegible].0	.....do	.....
*2085	....do	50, 000	94, 350	21.0	40.3	Granular; dull center	.....
*2086	....do	50, 000	91, 900	20.5	40.3	Granular; dull spot	.....
*2087	....do	50, 000	93, 350	22.5	37.1	.....do	.....
988	Muzzle No. 5....	56, 000	100, 900	19.5	37.1	Granular; dull silky center	7. 8750
989	....do	56, 000	100, 000	13.5	20.5	Granular line of dull metal.	.....
†2262	Breech No. 5....	55, 000	95, 800	25.0	49.1	Silky	.....
†2263	....do	60, 000	101, 650	20.5	27.4	Granular, radiating from dull spot.	.....
1033	Muzzle No. 6....	48, 000	94, 450	21.0	43.3	Silky	7. 8593
1102	....do	48, 000	94, 750	21.5	46.2	Silky; interspersed with granulation.	.....
1110	Muzzle No. 7....	46, 000	93, 050	21.5	43.3	Silky	7. 8671
1111	....do	45, 000	90, 500	23.5	30.7	.....do	.....
*2221	Breech No. 7....	47, 000	93, 450	21.5	43.3	Silky; interspersed with fine granulation.	.....
*2222	....do	48, 000	95, 800	15.0	20.5	Granular; dull spot	.....
*2223	....do	46, 000	93, 800	20.0	20.5	.....do	.....
*2416	....do	49, 000	101, 000	19.0	34.0	Granular, 60 per cent.; silky, 40 per cent.	.....
*2417	....do	52, 000	105, 200	15.5	30.7	Granular; dull center	.....
1112	Breech No. 8....	46, 000	91, 400	24.5	37.1	Silky, 60 per cent.; granular, 40 per cent.	7. 8694
1113	....do	45, 000	94, 000	17.5	27.4	Granular; dull spot	.....
*2215	Muzzle No. 8....	48, 000	96, 100	21.5	34.0	.....do	.....
*2216	....do	44, 000	90, 350	13.5	16.0	.....do	.....
*2217	....do	47, 000	93, 300	18.0	27.4	.....do	.....
†2547	....do	52, 000	105, 600	18.5	34.0	Granular; dull center	.....
†2548	....do	53, 000	108, 050	10.0	13.2	Granular	.....
*2720	....do	53, 000	108, 100	18.5	30.7	Granular; silky center	.....
*2721	....do	52, 000	105, 100	17.0	34.0	Granular; silky spot	.....
*2722	....do	53, 000	105, 900	19.0	34.0	Granular; dull silky center	.....
1114	Breech No. 9....	50, 000	98, 750	17.5	37.1	Silky	7. 8641
1115	....do	48, 000	99, 600	12.5	5.7	Granular; defective spot	.....
*2212	....do	49, 000	94, 900	23.5	30.7	Silky	.....
*2213	....do	48, 000	89, 500	10.5	13.2	Granular; dull flaky spot	.....
*2214	....do	49, 000	94, 100	20.0	43.3	Silky	.....
†2549	....do	51, 000	106, 400	17.0	37.1	Granular; dull center	.....
†2550	....do	52, 000	105, 900	17.5	30.7	Granular; dull spot	.....
2224	Breech No. 10...	55, 000	98, 850	18.0	43.3	Silky	.....
2225	....do	57, 000	103, 800	15.5	30.7	Granular; dull spot	.....
2519	Breech No. 11...	48, 000	97, 500	16.5	27.4	.....do	.....
2520	....do	47, 000	96, 500	12.0	13.2	Granular; cracks in stem	.....
†2711	....do	51, 000	98, 400	21.0	34.0	Silky, 40 per cent.; granular 60 per cent.	.....
†2712	....do	50, 000	98, 800	21.0	43.3	Silky; trace of granulation	.....
2226	Breech No. 12...	56, 000	96, 500	26.0	43.3	Silky	.....
2227	....do	53, 000	90, 000	26.5	51.9	.....do	.....
2078	Breech No. 13...	50, 000	95, 550	19.0	40.3	Granular; silky center	.....
2079	....do	52, 000	97, 550	19.0	37.1	Granular; dull center	.....
2088	Breech No. 14...	53, 000	93, 600	21.0	43.3	Silky	.....
2089	....do	54, 000	95, 300	22.5	40.3	Silky; trace of granulation	.....
2228	Muzzle No. 15...	53, 000	101, 550	21.0	37.1	Granular; dull center	7. 8613
2229	....do	50, 000	100, 300	21.5	37.1	.....do	.....
2280	Muzzle No. 16...	54, 000	101, 250	16.5	23.9	Granular; dull spot	.....
2281	....do	56, 000	99, 050	22.0	43.3	Silky; in part fine granular	.....

*Additional specimen. † New jacket.

TABULATION OF TENSION SPECIMENS, ETC.—Continued.

[Location of specimens: Middle.]

No. of test.	Position in gun.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.
		Pounds.	*Pounds.*	*Per ct.*	*Per ct.*		
2080	Breech No. 17	48,000	95,600	21.0	34.0	Granular; dull spot	
2081	do	48,000	96,700	21.0	40.3	Silky, with fine granulation	
*2545	Muzzle No. 17	52,000	102,400	18.0	40.3	Dull silky	
*2546	do	48,000	94,500	22.5	43.3	do	
2076	Breech No. 18	45,000	94,450	20.5	37.1	Granular, 60 per cent.; silky, 40 per cent.	
2077	do	46,000	96,800	20.0	37.1	Granular, 50 per cent.; silky, 50 per cent.	
*2521	Muzzle No. 18	49,000	98,700	15.5	23.9	Granular, 60 per cent.; silky, 40 per cent.	
*2522	do	49,000	100,400	20.0	37.1	Silky; trace of granulation	
2090	Breech No. 19	63,000	109,800	18.5	40.3	Silky	
2091	do	58,000	99,900	21.0	46.2	do	
2252	Muzzle No. 20	52,000	88,500	24.5	46.2	do	
2253	do	57,000	89,600	17.0	27.4	do	
2194	Breech No. 21	53,000	88,400	18.0	20.5	Silky; flaky	
2195	do	50,000	86,750	24.0	34.0	Silky	
*2418	do	46,000	95,550	22.0	43.3	do	
*2419	do	47,000	92,550	21.5	46.2	do	
†2698	Muzzle No. 21	57,000	107,900	14.0	20.5	Granular; dull spot	
†2699	do	57,000	107,400	22.5	37.1	Silky	
*2616	do	55,000	102,450	23.5	46.2	do	
*2617	do	54,000	102,100	23.5	30.7	Granular; silky spot	
2254	Muzzle No. 22	62,000	109,050	19.5	30.7	Granular; dull metal at circumference.	
2255	do	59,000	102,450	20.0	43.3	Silky; trace of granulation	
2276	Breech No. 23	56,000	95,000	21.0	34.0	Granular; dull spot	
2277	do	58,000	90,850	24.0	43.3	Silky; trace of granulation	
2256	Muzzle No. 24	59,000	103,550	21.5	43.3	Silky, with fine granulation	
2257	do	57,000	101,600	20.0	40.3	Silky	
2278	Muzzle No. 25	54,000	96,600	25.0	49.1	do	
2279	do	53,000	94,000	26.0	49.1	do	

*Additional specimen. †New jacket.

TABULATION OF COMPRESSION SPECIMENS FROM JACKET FOR 3".2 B. L. RIFLES.

[Location of specimens: Middle.]

No. of test.	Position in gun.	Elastic limit per square inch.	Ultimate strength per square inch.	Manner of failure.
		Pounds.	*Pounds.*	
531	Breech No. 1	48,000	95,800	Triple flexure.
532	Breech No. 2	54,000	100,100	Do.
529	Muzzle No. 3	59,000	105,800	Do.
533	Muzzle No. 4	58,000	104,000	Do.
530	Muzzle No. 5	54,000	99,300	Do.
*633	Breech No. 5	55,000	100,000	Do.
537	Muzzle No. 6	50,000	95,200	Do.
541	Muzzle No. 7	48,000	96,200	Do.
651	Breech No. 7	45,000	92,800	Do.
551	Breech No. 8	42,000	89,000	Do.
*660	Muzzle No. 8	54,000	104,640	Do.
555	Breech No. 9	54,000	94,800	Do.
*661	Breech No. 9	51,000	100,800	Do.
617	Breech No. 10	50,000	96,200	Do.
649	Breech No. 11	43,000	91,760	Do.
*676	Breech No. 11	51,000	98,200	Do.
618	Breech No. 12	55,000	91,600	Do.
609	Breech No. 13	54,000	99,800	Do.
611	Breech No. 14	46,000	92,000	Do.
619	Muzzle No. 15	50,000	99,000	Do.
636	Muzzle No. 16	57,000	96,020	Do.
610	Breech No. 17	47,000	89,600	Do.
†658	Muzzle No. 17	49,000	99,920	Do.
608	Breech No. 18	46,000	104,400	Do.
†650	Muzzle No. 18	51,000	102,640	Do.
612	Breech No. 19	54,000	99,800	Do.
628	Muzzle No. 20	50,000	91,000	Do.
613	Breech No. 21	49,000	85,600	Do.
†652	....do	48,000	97,600	Do.
*669	Muzzle No. 21	56,000	101,920	Do.
†678	....do	54,000	97,160	Do.
629	Muzzle No. 22	55,000	96,360	Do.
634	Breech No. 23	55,000	95,040	Do.
630	Muzzle No. 24	57,000	98,160	Do.
635	Breech No. 25	56,000	94,500	Do.

* New jacket. † Additional specimen.

TABULATION OF TENSION SPECIMENS FROM TRUNNION-HOOPS FOR 3".2 B. L. RIFLES.

[Location of specimens: Middle.]

No. of test.	Position in gun.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.
		Pounds.	*Pounds.*	*Per ct.*	*Per ct.*		
2051	T. hoop No. 1	47,000	90,400	8.5	5.7	Granular	7.8754
2052	do	48,000	90,000	9.5	5.7	Granular; surface cracks	
2053	do	50,000	91,480	12.0	13.2	do	
*2374	do	54,000	100,000	15.5	20.5	do	
*2375	do	55,000	97,900	21.0	51.9	Silky	
*2376	do	56,000	101,100	16.0	27.4	Granular; surface cracks	
2218	T. hoop No. 2	52,000	91,850	14.0	16.9	do	
2219	do	54,000	87,550	19.5	30.7	Silky; granular spot	
2220	do	54,000	87,500	10.5	13.2	Granular; surface cracks	
*2510	do	53,000	95,900	15.5	43.3	Granular; dull spot	
*2511	do	58,000	102,100	14.5	23.9	do	
*2512	do	55,000	98,700	20.5	49.1	Silky	
2282	T. hoop No. 3	52,000	98,250	19.5	27.4	Granular; surface cracks	
2283	do	52,000	98,300	19.5	34.0	Granular; dull spot	
2284	do	51,000	98,100	13.5	13.2	Granular; surface cracks	
2377	T. hoop No. 4	51,000	99,600	16.0	7.5	do	
2378	do	51,000	99,300	18.0	30.7	do	
2379	do	54,000	99,600	20.0	27.4	Granular; dull spot	
2466	T. hoop No. 5	56,000	100,900	19.0	34.0	do	
2467	do	56,000	100,500	18.5	34.0	Granular, 60 per cent.; silky, 40 per cent.	
2468	do	52,000	97,800	17.5	27.4	Granular; surface cracks	
2285	T. hoop No. 6	53,000	97,750	21.0	40.3	Silky and fine granular	
2286	do	52,000	95,600	22.5	37.1	Silky; trace of granular	
2287	do	52,000	98,100	24.0	40.3	Silky, 50 per cent.; granular, 50 per cent.	
2451	T. hoop No. 7	52,000	97,000	22.5	37.1	Silky; trace of granular	
2452	do	51,000	93,500	7.0	9.5	Granular; dull spot	
2453	do	51,000	98,800	23.5	40.3	Silky	
†2441	do	60,000	100,000	21.0	43.3	do	
†2442	do	52,000	93,900	20.0	49.1	do	
†2443	do	55,000	96,400	24.5	49.1	do	
2454	T. hoop No. 8	53,000	97,500	23.0	43.3	do	
2455	do	52,000	96,950	19.0	40.3	Silky; trace of granular	
2456	do	52,000	97,600	22.5	43.3	do	
2969	T. hoop No. 9	54,000	99,600	20.0	43.3	Silky	
2470	do	52,000	96,300	26.0	43.3	do	
2471	do	54,000	97,250	23.0	46.2	do	
2472	T. hoop No. 10	51,000	96,500	20.0	43.3	do	
2473	do	49,000	95,200	22.0	37.1	Silky and fine granular	
2474	do	53,000	96,500	25.0	46.2	Silky	
2380	T. hoop No. 11	51,000	95,500	19.0	40.3	Silky, 50 per cent.; granular, 50 per cent.	
2381	do	52,000	96,500	21.5	40.3	Silky, 60 per cent.; granular, 40 per cent.	
2382	do	50,000	94,600	23.0	40.3	Silky	
2386	T. hoop No. 12	51,000	95,800	21.5	43.3	do	
2387	do	51,000	97,750	22.0	40.3	Silky, 50 per cent.; granular, 50 per cent.	
2388	do	49,000	94,600	19.0	34.0	Silky, 40 per cent.; granular, 60 per cent.	
2288	T. hoop No. 13	52,000	98,600	14.0	13.2	Granular; dull spot	
2289	do	49,000	94,750	20.5	30.7	Granular; surface cracks	
2290	do	52,000	98,100	22.5	40.3	Granular, 60 per cent.; dull silky, 40 per cent.	
2291	T. hoop No. 14	50,000	98,050	19.0	37.1	do	
2292	do	51,000	100,100	20.0	30.7	Granular; small dull spot	
2293	do	51,000	98,400	15.5	27.4	Granular	
2383	T. hoop No. 15	51,000	96,250	20.0	37.1	Granular; dull spot	
2384	do	50,000	88,000	5.5	5.7	Granular	
2385	do	49,000	94,900	21.5	37.1	Granular; dull spot	
†2444	do	55,000	95,800	26.0	54.6	Silky	
†2445	do	54,000	95,050	25.0	46.2	do	
†2446	do	54,000	95,600	25.0	51.9	do	
2457	T. hoop No. 16	50,000	96,500	14.5	16.9	Granular; dull spot	
2458	do	52,000	98,300	16.5	27.4	do	
2459	do	50,000	87,900	13.5	5.7	Granular	
†2449	do	52,000	98,200	20.0	37.1	Silky; trace of granular	
†2450	do	52,000	99,000	22.0	37.1	do	
†2450a	do	51,000	97,950	19.5	34.0	Granular; dull spot	
2460	T. hoop No. 17	52,000	99,600	20.0	37.1	Granular, 70 per cent.; silky, 30 per cent.	

* New trunnion-hoop.

† Additional specimen.

TABULATION OF TENSION SPECIMENS FROM TRUNNION-HOOPS FOR 3".2 B. L. RIFLES—Continued.

[Location of specimens: Middle.]

No. of test.	Position in gun.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.
		Pounds.	*Pounds.*	*Per ct.*	*Per ct.*		
2461	T. hoop No. 17..	54,000	101,000	20.0	43.0	Silky	7.8754
2462	....do.....	51,000	98,550	18.0	37.1	Granular, 50 per cent.; silky, 50 per cent.	.....
2392	T. hoop No. 18..	53,000	95,250	5.5	9.5	Granular	.....
2393	....do.....	53,000	98,900	16.0	20.5	.....do.....	.....
2394	....do.....	54,000	97,000	22.5	40.3	Granular, 60 per cent.; silky, 40 per cent.	.....
†2570	....do.....	47,000	88,800	23.0	34.0	Granular; dull silky spot	.....
†2571	....do.....	45,000	83,500	30.5	50.8	Fine silky	.....
†2572	....do.....	44,000	84,200	31.0	59.8	Silky	.....
†2609	....do.....	50,000	95,050	20.0	37.1	Granular, 60 per cent.; silky, 40 per cent.	.....
‡2610	...do.....	51,000	94,900	19.5	30.7	Granular, 75 per cent.; silky, 25 per cent.	.....
‡2611	...do.....	49,000	94,700	19.5	34.0	Granular, 60 per cent.; silky, 40 per cent.	.....
2587	T. hoop No. 19..	55,000	105,350	14.0	16.9	Granular; dull spot	.....
2588	....do.....	55,000	106,400	18.5	23.9	Granular; surface cracks	.....
2589	....do.....	54,000	103,600	17.5	16.9	Granular; dull spot	.....
2513	T. hoop No. 20..	51,000	98,400	18.5	30.7	.....do.....	.....
2514	....do.....	51,000	98,900	5.0	5.7	Granular	.....
2515	....do.....	51,000	96,500	11.5	9.5	.....do.....	.....
†2573	....do.....	48,000	94,000	23.5	40.3	Silky, with fine granulation	.....
†2574	....do.....	48,000	94,500	23.5	40.3	.....do.....	.....
†2575	....do.....	46,000	90,500	26.0	49.1	Fine, silky	.....
2389	T. hoop No. 21..	49,000	87,750	8.0	9.5	Granular; surface cracks	.....
2390	....do.....	48,000	86,000	10.0	9.5	.....do.....	.....
2391	....do.....	49,000	89,950	20.0	37.1	Granular; dull spot	.....
†2438	....do.....	48,000	88,150	28.0	51.9	Fine silky	.....
†2439	....do.....	51,000	90,700	25.0	49.1	.....do.....	.....
†2440	....do.....	50,000	88,050	29.0	51.9	.....do.....	.....
2516	T. hoop No. 22..	52,000	98,100	20.0	34.0	Granular; dull spot	.....
2517	....do.....	51,000	96,250	15.0	16.9	.....do.....	.....
2518	....do.....	51,000	96,300	20.0	37.1	Granular, 60 per cent.; silky, 40 per cent.	.....
2475	T. hoop No. 23..	52,000	95,000	13.0	16.9	Granular; dull spot	.....
2476	....do.....	52,000	96,000	16.0	30.7	.....do.....	.....
2477	....do.....	51,000	93,700	15.0	27.4	.....do.....	.....
2294	T. hoop No. 24..	52,000	94,900	23.5	51.9	Silky	.....
2295	....do.....	51,000	95,000	14.0	16.9	Granular; surface cracks	.....
2296	....do.....	52,000	93,000	9.0	9.5	Granular; crack in stem	.....
†2523	....do.....	59,000	95,100	24.0	9.5	Fine, silky	.....
†2524	....do.....	56,000	95,800	26.0	57.2	.....do.....	.....
†2525	....do.....	56,000	95,200	25.0	57.2	.....do.....	.....
2463	T. hoop No. 25...	54,000	98,400	11.0	16.9	Granular; dull spot	.....
2464	....do.....	52,000	96,750	16.5	23.9	.....do.....	.....
2465	....do.....	54,000	96,200	19.0	37.1	Silky	.....
†2704	....do.....	55,000	96,950	22.5	51.9	.....do.....	.....
†2705	....do.....	53,000	96,500	19.5	37.1	.....do.....	.....
†2706	....do.....	55,000	98,250	13.5	30.7	Granular; dull spot	.....

† Additional specimen.

‡ New trunnion-hoop.

TABULATION OF TENSION SPECIMENS FROM BREECH-BLOCKS FOR 3".2 B. L. RIFLES.

[Location of specimens: Inside.]

No. of test.	Position in gun.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.
		Pounds.	*Pounds.*	*Per ct.*	*Per ct.*		
2054	B. block No. 1	50,000	102,600	15.5	27.4	Granular; dull center	7.8671
2044	B. block No. 2	54,000	102,000	17.0	34.0	do	7.8661
2055	B. block No. 3	51,000	97,600	18.5	27.4	do	7.8691
2064	B. block No. 4	53,000	100,300	16.0	34.0	do	.....
2056	B. block No. 5	50,000	97,800	18.5	30.7	do	7.8555
2057	B. block No. 6	54,000	106,750	17.5	30.7	Granular; dull spot	7.8575
2075	B. block No. 7	50,000	96,300	19.0	37.1	Granular; dull center	.....
2043	B. block No. 8	54,000	101,500	18.5	34.0	do	7.8603
2058	B. block No. 9	55,000	104,000	18.0	30.7	do	7.8649
2059	B. block No. 10	49,000	100,800	15.5	27.4	do	7.8578
2065	B. block No. 11	56,000	106,700	17.5	30.7	do	.....
2066	B. block No. 12	52,000	99,100	21.5	34.0	do	.....
2067	B. block No. 13	55,000	101,500	16.0	30.7	do	.....
2060	B. block No. 14	54,000	101,400	16.0	34.0	do	.....
2070	B. block No. 15	50,000	103,025	16.5	27.4	do	.....
2061	B. block No. 16	52,000	102,400	16.0	30.7	do	.....
2071	B. block No. 17	52,000	100,050	17.0	34.0	do	.....
2060	B. block No. 18	53,000	103,100	18.0	34.0	Granular; dull spot	.....
2073	B. block No. 19	52,000	99,900	19.5	34.0	Granular; dull center	.....
2062	B. block No. 20	47,000	97,900	16.5	30.7	Granular; dull spot	.....
2073	B. block No. 21	49,000	101,550	16.0	34.0	do	.....
2063	B. block No. 22	50,000	99,350	18.0	34.0	Granular; dull center	.....
2074	B. block No. 23	47,000	99,150	15.5	30.7	do	.....
2068	B. block No. 24	49,000	98,700	20.5	30.7	do	.....
2045	B. block No. 25	44,000	95,600	19.0	30.7	do	.....
*2395	B. block No. 25	60,000	99,950	22.5	43.3	Silky	.....

*Additional specimen.

TABULATION OF COMPRESSION SPECIMENS FROM BREECH-BLOCKS FOR 3".2 B. L. RIFLES.

[Location of specimens: Inside.]

No. of test.	Position in gun.	Elastic limit per square inch.	Ultimate strength per square inch.	Manner of failure.
		Pounds.	*Pounds.*	
584	B. block No. 1	57,000	106,200	Triple flexure.
581	B. block No. 2	54,000	108,400	Do.
585	B. block No. 3	52,000	104,600	Do.
596	B. block No. 4	53,000	107,200	Do.
586	B. block No. 5	52,000	108,200	Do.
587	B. block No. 6	57,000	113,200	Do.
607	B. block No. 7	52,000	105,400	Do.
580	B. block No. 8	54,000	109,200	Do.
588	B. block No. 9	55,000	110,800	Do.
589	B. block No. 10	49,000	110,800	Do.
597	B. block No. 11	52,000	112,200	Do.
598	B. block No. 12	51,000	107,200	Do.
599	B. block No. 13	52,000	113,400	Do.
601	B. block No. 14	57,000	111,800	Do.
602	B. block No. 15	52,000	113,800	Do.
592	B. block No. 16	53,000	106,400	Do.
603	B. block No. 17	50,000	105,000	Do.
591	B. block No. 18	60,000	110,800	Do.
604	B. block No. 19	54,000	105,000	Do.
593	B. block No. 20	45,000	101,400	Do.
605	B. block No. 21	50,000	107,800	Do.
594	B. block No. 22	53,000	107,000	Do.
606	B. block No. 23	47,000	103,600	Do.
600	B. block No. 24	50,000	105,400	Do.
582	B. block No. 25	47,000	103,000	Do.
*646	B. block No. 25	61,000	106,320	Do.

*Additional specimen.

TABULATION OF TENSION SPECIMENS FROM BASE-RINGS FOR 3".2 B. L. RIFLES.

[Location of specimens: Middle.]

No. of test.	Position in gun.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.
		Pounds.	*Pounds.*	*Per ct.*	*Per ct.*		
1030	B. ring No. 1	52,000	103,550	19.0	30.7	Granular; dull center	7.8678
1031	B. ring No. 5	57,000	110,500	15.0	23.9	do	7.8667
1032	B. ring No. 10	53,000	102,900	17.0	34.0	do	7.8646
1103	B. ring No. 15	57,000	109,000	19.5	30.7	Granular; dull spot	7.8623
1104	B. ring No. 20	59,000	107,750	16.5	34.0	Granular; dull, silky center.	7.8616
1105	B. ring No. 25	47,000	102,900	19.0	30.7	Granular; dull spot	7.8672

TABULATION OF COMPRESSION SPECIMENS FROM BASE-RINGS FOR 3".2 B. L. RIFLES.

[Location of specimens: Middle.]

No. of test.	Position in gun.	Elastic limit per square inch.	Ultimate strength per square inch.	Manner of failure.
		Pounds.	*Pounds.*	
534	B. ring No. 1	49,000	101,100	Triple flexure.
535	B. ring No. 5	57,000	108,480	Do.
536	B. ring No. 10	59,000	105,800	Do.
538	B. ring No. 15	59,000	106,840	Do.
539	B. ring No. 20	51,000	100,960	Do.
540	B. ring No. 25	50,000	95,900	Do.

TABULATION OF SPECIMENS FROM SLEEVES FOR 3".2 B. L. RIFLES.

[Location of specimens: Inside.]

No. of test.	Position in gun.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.
		Pounds.	*Pounds.*	*Per ct.*	*Per ct.*		
1106	Sleeve No. 1	61,000	109,500	20.5	40.3	Silky, 80 per cent.; granular, 20 per cent.	7.8621
1107	Sleeve No. 5	56,000	100,500	15.0	30.7	Granular; dull center	7.8627
1108	Sleeve No. 10	55,000	105,000	18.5	34.0	Granular, 50 per cent.; dull silky, 50 per cent.	7.8636
1109	Sleeve No. 15	59,000	110,000	15.5	30.7	Granular; dull, silky center	7.8655
2191	Sleeve No. 16	58,000	104,050	13.0	23.9	Granular; dull spot	.....
*2407	Sleeve No. 16	56,000	98,400	10.0	13.2	Granular; crack in stem	.....
2505	Sleeve No. 20	54,000	97,000	25.0	54.6	Silky	.....
2192	Sleeve No. 21	54,000	100,000	19.0	40.3	Granular; dull center	.....
2193	Sleeve No. 25	54,000	104,450	17.0	34.0	do	.....

*Additional specimen.

TABULATION OF COMPRESSION SPECIMENS FROM OBTURATOR STEMS FOR 3".2 B. L. RIFLES.

[Location of specimens: End.]

No. of test.	Position in gun.	Elastic limit per square inch.	Ultimate strength per square inch.	Manner of failure.
		Pounds.	*Pounds.*	
556	Obturator stem No. 1	60,000	109,400	Triple flexure.
557	Obturator stem No. 5	60,000	110,900	Do.
558	Obturator stem No. 10	73,000	110,760	Do.
559	Obturator stem No. 15	57,000	104,480	Do.
560	Obturator stem No. 20	63,000	113,160	Do.
561	Obturator stem No. 25	65,000	112,160	Do.

5-INCH STEEL B. L. RIFLE NO. 1.

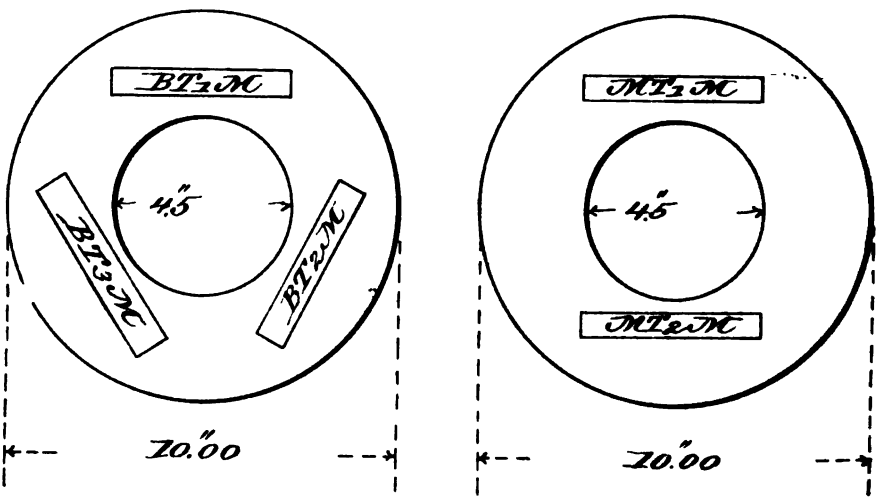
STEEL SPECIMENS

FROM

TUBE, JACKET, TRUNNION-HOOP, BREECH-BLOCK, BASE-RING, SLEEVE, AND OBTURATOR STEM.

5" Steel B.L. Rifle No. 1

Tube



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SPECIMENS FROM 5-INCH STEEL B. L. RIFLE NO. 1.

No. 2530.

Marks, $\frac{5\ R;\ T}{B\ T;\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000550	.000100	0.	.....	
5,000	25,000	.000750	.000200	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	.....	.....	
8,000	40,000	.001300	.000200	.....	.....	
8,200	41,000	.001350	.000050	.....	.....	
8,400	42,000	.001400	.000050	.....	.....	Elastic limit.
8,600	43,000	.006000	.004600	.....	.....	
8,800	44,000	.006000	.00090	.....	.....	
9,000	45,000	.008000	.001100	.....	.....	
9,200	46,000	.009000	.001000	.....	.....	
9,400	47,000	.010050	.001050	.....	.....	
9,600	48,000	.011500	.001450	.....	.....	
9,800	49,000	.012250	.000750	.....	.....	
10,000	50,000	.013500	.001250	.....	.....	
10,400	52,000	.015750	.002250	.....	.....	
10,800	54,000	.019000	.003250	.....	.....	
11,200	56,000	.021250	.002250	.....	.....	
11,600	58,000	.024000	.002750	.....	.....	
12,000	60,000	.027500	.003500	.....	.....	
12,400	62,000	.031000	.003500	.....	.....	
12,800	64,000	.035000	.004000	.....	.....	
13,200	66,000	.039750	.004750	.....	.....	
13,600	68,000	.045000	.005250	.....	.....	
14,000	70,000	.052000	.007000	.....	.....	
14,400	72,000	.0600	.0080	.....	.....	
14,800	74,000	.0700	.0100	.....	.....	
15,200	76,000	.0900	.0200	.....	.....	
15,600	78,000	.1300	.0400	.....	.....	
15,800	79,000	.1800	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,000
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2950
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".30", ".29"

No. 2531.

Marks, $\frac{5\ R,\ T}{B\ T,\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000350	.000150	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	.....	.....	
7,200	36,000	.001300	.000100	.....	.....	
7,400	37,000	.001350	.000050	.....	.....	
7,600	38,000	.001400	.000050	.....	.....	
7,800	39,000	.001450	.000050	.....	.....	
8,000	40,000	.001550	.000100	.....	.....	
8,200	41,000	.001600	.000050	.....	.....	
8,400	42,000	.001650	.000050	.....	.....	Elastic limit.
8,600	43,000	.004000	.002350	.....	.....	
8,800	44,000	.005700	.001700	.....	.....	
9,000	45,000	.006400	.000700	.....	.....	
9,200	46,000	.007400	.001000	.....	.....	
9,400	47,000	.008350	.000950	.....	.....	
9,600	48,000	.009250	.000900	.....	.....	
9,800	49,000	.010500	.001250	.....	.....	
10,000	50,000	.011500	.001000	.....	.....	
10,400	52,000	.014250	.002750	.....	.....	
10,800	54,000	.016500	.002250	.....	.....	
11,200	56,000	.018550	.002050	.....	.....	
11,600	58,000	.021250	.002700	.....	.....	
12,000	60,000	.024250	.003000	.....	.....	
12,400	62,000	.028000	.003750	.....	.....	
12,800	64,000	.031000	.002000	.....	.....	
13,200	66,000	.034000	.003000	.....	.....	
13,600	68,000	.038500	.004500	.....	.....	
14,000	70,000	.044250	.005750	.....	.....	
14,400	72,000	.051000	.006750	.....	.....	
14,800	74,000	.0550	.0040	.....	.....	
15,200	76,000	.0650	.0100	.....	.....	
15,600	78,000	.0900	.0250	.....	.....	
16,000	80,000	.1400	.0500	.....	.....	
16,010	80,050	.1550	.0150	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,050
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2650
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.165
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		".60 from neck
Character of broken surface		silky
Elongation of inch sections		.15, ".3

No. 657.

Marks, $\frac{5\,R,\,T}{B\,T,\,I}$
Length, 4″.505.
Diameter, ′ .798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000267	.000167	0.	.....	
7,500	15,000	.000400	.000133	0.	.....	
10,000	20,000	.000567	.000167	0.	.....	
12,500	25,000	.000767	.000200	0.	.....	
15,000	30,000	.000933	.000166	0.	.....	
17,500	35,000	.001100	.000167	0.	.....	
20,000	40,000	.001233	.000133	.....	.....	
20,500	41,000	.001267	.000034	.....	.....	
21,000	42,000	.001333	.000066	.....	.....	
21,500	43,000	.001367	.000034	.....	.....	
22,000	44,000	.001400	.000033	.....	.....	
22,500	45,000	.001467	.000067	.....	.....	Elastic limit.
23,000	46,000	.004400	.002933	.....	.....	
23,500	47,000	.006700	.002300	.....	.....	
24,000	48,000	.007933	.001233	.....	.....	
40,380	80,760	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	45,000
Compression per inch under stress at elastic limit	inch..	0.001467
Ultimate strength per square inch of original section	pounds..	80,760
Manner of failure		triple flexure

No. 2532.

Marks, $\frac{5\,R,\,T}{M\,T,\,M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000400	.000200	0.	.....	
3,000	15,000	.000550	.000150	0.	.....	
4,000	20,000	.000650	.000100	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001200	.000200	.....	.....	
8,000	40,000	.001500	.000300	.....	.....	
8,200	41,000	.001550	.000050	.....	.....	
8,400	42,000	.001600	.000050	.....	.....	Elastic limit.
8,600	43,000	.001800	.000200	.....	.....	
8,800	44,000	.002250	.000450	.....	.....	
9,000	45,000	.003150	.000900	.....	.....	
9,200	46,000	.004050	.000900	.....	.....	
9,400	47,000	.005100	.001050	.....	.....	
9,600	48,000	.006250	.001150	.....	.....	
9,800	49,000	.007400	.001150	.....	.....	
10,000	50,000	.008600	.001200	.....	.....	
10,400	52,000	.010400	.001800	.....	.....	
10,800	54,000	.012600	.002200	.....	.....	
11,200	56,000	.015350	.002750	.....	.....	
11,600	58,000	.017250	.001900	.....	.....	
12,000	60,000	.019500	.002250	.....	.....	
12,400	62,000	.021750	.002250	.....	.....	
12,800	64,000	.025000	.003250	.....	.....	
13,200	66,000	.028050	.003050	.....	.....	
13,600	68,000	.031500	.003450	.....	.....	
14,000	70,000	.036050	.004550	.....	.....	
14,400	72,000	.041000	.004950	.....	.....	
14,800	74,000	.046250	.005250	.....	.....	
15,200	76,000	.051750	.005500	.....	.....	
15,600	78,000	.0600	.008250	.....	.....	
16,000	80,000	.0750	.0150	.....	.....	
16,400	82,000	.1000	.0250	.....	.....	
16,610	83,500	.1400	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,050
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do...	.00160
Reduction in diameter at point of rupture	do...	.090
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		½ inch from neck
Character of broken surface	granular, 65 per centum; silky, 35 per centum	
Elongation of inch sections		".14, ".27

No. 2533.

Marks, $\frac{5\,R;\,T}{M\,T;\,M}$
Diameter, ″.505.
Sectional area, .20 square inch.

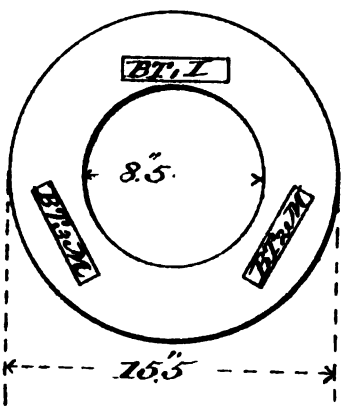
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000700	.000200	0.	.....	
6,000	30,000	.000850	.000150	0.	.....	
7,000	35,000	.001000	.000150	.....	.....	
8,000	40,000	.001250	.000250	.....	.....	
8,200	41,000	.001300	.000050	.....	.....	
8,400	42,000	.001350	.000050	.....	.....	Elastic limit.
8,600	43,000	.001600	.000250	.....	.....	
8,800	44,000	.002150	.000550	.....	.....	
9,000	45,000	.003350	.001200	.....	.....	
9,200	46,000	.004000	.000650	.....	.....	
9,400	47,000	.005100	.001100	.....	.....	
9,600	48,000	.006400	.001300	.....	.....	
9,800	49,000	.007250	.000850	.....	.....	
10,000	50,000	.008250	.001000	.....	.....	
10,400	52,000	.010200	.001950	.....	.....	
10,800	54,000	.012750	.002550	.....	.....	
11,200	56,000	.015000	.002250	.....	.....	
11,600	58,000	.017500	.002500	.....	.....	
12,000	60,000	.020000	.002500	.....	.....	
12,400	62,000	.022500	.002500	.....	.....	
12,800	64,000	.025750	.003250	.....	.....	
13,200	66,000	.028750	.003000	.....	.....	
13,600	68,000	.032800	.004050	.....	.....	
14,000	70,000	.037000	.004200	.....	.....	
14,400	72,000	.041750	.004750	.....	.....	
14,800	74,000	.048000	.006250	.....	.....	
15,200	76,000	.055000	.007000	.....	.....	
15,600	78,000	.0600	.0050 *	.....	.....	
16,000	80,000	.0850	.0200	.....	.....	
16,400	82,000	.1050	.0250	.....	.....	
16,570	82,850	.1500	.0450	.....	.....	Tensile strength.

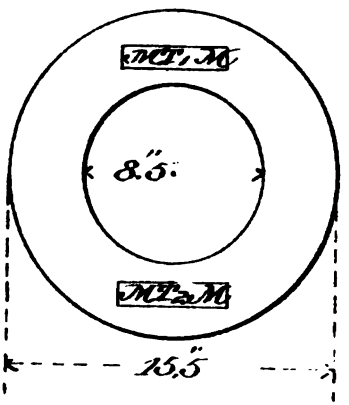
General summary.

Tensile strength per square inch of original section	pounds.	82,850
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2450
Elongation per inch under strain at elastic limit	do...	.001350
Reduction in diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		″.95 from neck
Character of broken surface		silky
Elongation of inch sections		″.34*, ″.15

5" Steel B.L. Rifle No. 1

Jacket





H Ex 31 49 2

No. 2551.

Marks, $\frac{5\,R;\,J}{B\,T;\,I}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000450	.000200	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	.....	.....	
8,000	40,000	.001350	.000150	.....	.....	
9,000	45,000	.001550	.000200	.....	.....	
9,200	46,000	.001600	.000050	.....	.....	
9,400	47,000	.001700	.000100	.....	.....	
9,600	48,000	.001800	.000100	.....	.....	Elastic limit.
9,800	49,000	.002350	.000550	.....	.....	
10,000	50,000	.002850	.000500	.....	.....	
10,200	51,000	.003350	.000500	.....	.....	
10,400	52,000	.004000	.000650	.....	.....	
10,600	53,000	.004450	.000450	.....	.....	
10,800	54,000	.005050	.000600	.....	.....	
11,000	55,000	.005650	.000600	.....	.....	
11,200	56,000	.006600	.000950	.....	.....	
11,400	57,000	.007500	.000900	.....	.....	
11,600	58,000	.008250	.000750	.....	.....	
11,800	59,000	.009050	.000800	.....	.....	
12,000	60,000	.009550	.000500	.....	.....	
12,400	62,000	.011200	.001650	.....	.....	
12,800	64,000	.013300	.002100	.....	.....	
13,200	66,000	.014650	.001350	.....	.....	
13,600	68,000	.017000	.002350	.....	.....	
14,000	70,000	.019000	.002000	.....	.....	
14,400	72,000	.020600	.001600	.....	.....	
14,800	74,000	.022900	.002300	.....	.....	
15,200	76,000	.025000	.002100	.....	.....	
15,600	78,000	.027600	.002600	.....	.....	
16,000	80,000	.030600	.003000	.....	.....	
16,400	82,000	.033550	.002950	.....	.....	
16,800	84,000	.037500	.003950	.....	.....	
17,200	86,000	.041250	.003750	.....	.....	
17,600	88,000	.046000	.004750	.....	.....	
18,000	90,000	.052500	.006500	.....	.....	
18,400	92,000	.0600	.0075	.....	.....	
18,720	93,600	.0650	.0050	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,600
Elastic limit per square inch of original section	do ..	48,000
Elongation per inch after rupture	inch..	0.0650
Elongation per inch under strain at elastic limit	do....	.001800
Reduction in diameter at point of rupture	do....	.025
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		".35 from neck.
Character of broken surface, granular; line of flaky metal across fractured surface; opened small cracks in the surface of stem.		
Elongation of inch sections		".06, ".07*

No. 2552.

Marks, $\overset{5}{B}\ \overset{R_1\ J}{T_2\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000500	.000100	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000800	.000150	0.	.....	
7,000	35,000	.001000	.000200	.....	.....	
8,000	40,000	.001150	.000150	.....	.....	
9,000	45,000	.001400	.000250	.....	.....	Elastic limit.
9,200	46,000	.001600	.000200	.....	.....	
9,400	47,000	.003000	.001400	.....	.....	
9,600	48,000	.003500	.000500	.....	.....	
9,800	49,000	.004350	.000850	.....	.....	
10,000	50,000	.005150	.000800	.....	.....	
10,200	51,000	.006000	.000850	.....	.....	
10,400	52,000	.006550	.000550	.....	.....	
10,600	53,000	.007150	.000600	.....	.....	
10,800	54,000	.008250	.001100	.....	.....	
11,000	55,000	.008750	.000500	.....	.....	
11,200	56,000	.009500	.000750	.....	.....	
11,400	57,000	.010250	.000750	.....	.....	
11,600	58,000	.011250	.001000	.....	.....	
11,800	59,000	.012000	.000750	.....	.....	
12,000	60,000	.012800	.000800	.....	.....	
12,400	62,000	.014600	.001800	.....	.....	
12,800	64,000	.016500	.001900	.....	.....	
13,200	66,000	.018400	.001900	.....	.....	
13,600	68,000	.020350	.001950	.....	.....	
14,000	70,000	.022450	.002100	.....	.....	
14,400	72,000	.024850	.002400	.....	.....	
14,800	74,000	.027200	.002350	.....	.....	
15,200	76,000	.030000	.002800	.....	.....	
15,600	78,000	.033500	.003500	.....	.....	
16,000	80,000	.036900	.003400	.....	.....	
16,400	82,000	.040600	.003700	.....	.....	
16,800	84,000	.044900	.004300	.....	.....	
17,200	86,000	.050250	.005350	.....	.....	
17,600	88,000	.0550	.004750	.....	.....	
18,000	90,000	.0650	.0100	.....	.....	
18,400	92,000	.0800	.0150	.....	.....	
18,800	94,000	.0950	.0150	.....	.....	
19,120	95,600	.1450	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	95,600
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".85 from neck; oblique
Character of broken surface		silky
Elongation of inch sections		".12, ".33"

No. 659.

Marks, $\frac{5\,B,\,J}{B\,T,\,M}$
Length, 4″.507.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000067	.000067	0.	.....	
5,000	10,000	.000300	.000233	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000667	.000167	0.	.....	
12,500	25,000	.000833	.000166	0.	.....	
15,000	30,000	.001000	.000167	0.	.....	
17,500	35,000	.001200	.000200	0.	.....	
20,000	40,000	.001300	.000100	.....	.....	
20,500	41,000	.001333	.000033	.....	.....	
21,000	42,000	.001367	.000034	.....	.....	
21,500	43,000	.001400	.000033	.....	.....	
22,000	44,000	.001400	0.	.....	.....	
22,500	45,000	.001433	.000033	.....	.....	
23,000	46,000	.001467	.000034	.....	.....	Elastic limit.
23,500	47,000	.002633	.001166	.....	.....	
24,000	48,000	.003833	.001200	.....	.....	
24,500	49,000	.004733	.000900	.....	.....	
25,000	50,000	.005000	.000266	.....	.....	
45,660	91,320	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	46,000
Compression per inch under stress at elastic limit	inch..	0.001467
Ultimate strength per square inch of original section	pounds..	91,320
Manner of faildre		triple flexure

No. 2553.

Marks, $\frac{5\ R,\ J}{M\ T,\ M}$
Diameter, ".506.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000200	.000100	0.		
3,000	15,000	.000350	.000150	0.		
4,000	20,000	.000550	.000200	0.		
5,000	25,000	.000700	.000150	0.		
6,000	30,000	.000850	.000150	0.		
7,000	35,000	.001050	.000200			
8,000	40,000	.001250	.000200			
9,000	45,000	.001400	.000150			
9,200	46,000	.001400	0.			
9,400	47,000	.001450	.000050			
9,600	48,000	.001500	.000050			
9,800	49,000	.001550	.000050			
10,000	50,000	.001550	0.			
10,200	51,000	.001600	.000050			
10,400	52,000	.001600	0.			
10,600	53,000	.001650	.000050			
10,800	54,000	.001700	.000050			
11,000	55,000	.001750	.000050			Elastic limit.
11,200	56,000	.002100	.000350			
11,400	57,000	.002900	.000800			
11,600	58,000	.003500	.000600			
11,800	59,000	.004100	.000600			
12,000	60,000	.005000	.000900			
12,400	62,000	.006100	.001100			
12,800	64,000	.007600	.001500			
13,200	66,000	.009100	.001500			
13,600	68,000	.010600	.001500			
14,000	70,000	.012100	.001500			
14,400	72,000	.013750	.001650			
14,800	74,000	.015600	.001850			
15,200	76,000	.017200	.001600			
15,600	78,000	.019000	.001800			
16,000	80,000	.020600	.001600			
16,400	82,000	.023000	.002400			
16,800	84,000	.025000	.002000			
17,200	86,000	.027550	.002550			
17,600	88,000	.030250	.002700			
18,000	90,000	.032500	.002250			
18,400	92,000	.035500	.003000			
18,800	94,000	.039000	.003500			
19,200	96,000	.043000	.004000			
19,600	98,000	.047500	.004500			
20,000	100,000	.0550	.0075			
20,400	102,000	.0600	.0050			
20,800	104,000	.0700	.0100			
21,200	106,000	.1000	.0300			
21,310	106,550	.1300	.0300			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	106,550
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.078
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		".55 from neck
Character of broken surface		granular; radiating from a dull spot at the circumference
Elongation of inch sections		".34", ".13

No. 2554.

Marks, $\frac{5\ R;\ J}{M\ T;\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

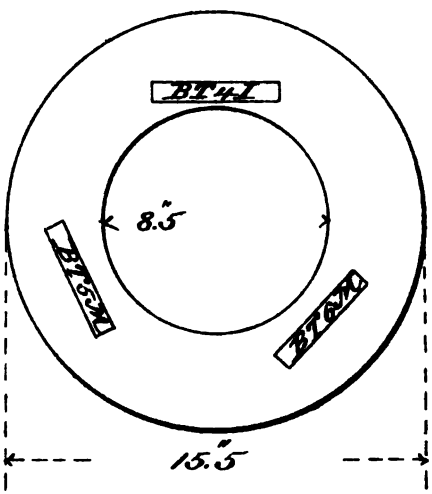
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000200	.000100	0.	.....	
3,000	15,000	.000350	.000150	0.	.....	
4,000	20,000	.000500	.000150	0.	.....	
5,000	25,000	.000600	.000100	0.	.....	
6,000	30,000	.000800	.000200	0.	.....	
7,000	35,000	.000950	.000150	.....	.....	
8,000	40,000	.001150	.000200	.....	.....	
9,000	45,000	.001350	.000200	.....	.....	
9,200	46,000	.001400	.000050	.....	.....	
9,400	47,000	.001400	0.	.....	.....	
9,600	48,000	.001450	.000050	.....	.....	
9,800	49,000	.001450	0.	.....	.....	
10,000	50,000	.001500	.000050	.....	.....	
10,200	51,000	.001500	0.	.....	.....	
10,400	52,000	.001550	.000050	.....	.....	
10,600	53,000	.001650	.000100	.....	.....	
10,800	54,000	.001700	.000050	.....	.....	
11,000	55,000	.001750	.000050	.....	.....	
11,200	56,000	.001800	.000050	.....	.....	Elastic limit.
11,400	57,000	.001950	.000150	.....	.....	
11,600	58,000	.002750	.000800	.....	.....	
11,800	59,000	.003250	.000500	.....	.....	
12,000	60,000	.003750	.000500	.....	.....	
12,400	62,000	.005300	.001550	.....	.....	
12,800	64,000	.007000	.001700	.....	.....	
13,200	66,000	.008550	.001550	.....	.....	
13,600	68,000	.009900	.001350	.....	.....	
14,000	70,000	.011550	.001650	.....	.....	
14,400	72,000	.013250	.001700	.....	.....	
14,800	74,000	.014900	.001650	.....	.....	
15,200	76,000	.016550	.001650	.....	.....	
15,600	78,000	.018250	.001700	.....	.....	
16,000	80,000	.020100	.001850	.....	.....	
16,400	82,000	.022750	.002650	.....	.....	
16,800	84,000	.024650	.001900	.....	.....	
17,200	86,000	.026800	.002150	.....	.....	
17,600	88,000	.030000	.003200	.....	.....	
18,000	90,000	.033250	.003250	.....	.....	
18,400	92,000	.037000	.003750	.....	.....	
18,800	94,000	.040000	.003000	.....	.....	
19,200	96,000	.044750	.004750	.....	.....	
19,600	98,000	.049000	.004250	.....	.....	
20,000	100,000	.054750	.005750	.....	.....	
20,400	102,000	.0650	.010250	.....	.....	
20,800	104,000	.0830	.0200	.....	.....	
21,140	105,700	.1200	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	105,700
Elastic limit per square inch of original section	do...	56,000
Elongation per inch after rupture	inch .	0.1600
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		27.4
Position of rupture		¾ inch from neck
Character of broken surface		granular; dull spot at circumference

Jacket 5" Steel B.L. Rifle No. 1

Additional Specimens



H Ex 31 ..... 49 2

No. 2708.

Marks, $\frac{5\,R_1\,J}{B\,T_4\,I}$
Diameter, ".506.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001050	.000200	.000050	.000050	
7,000	35,000	.001200	.000150	.....	.....	
8,000	40,000	.001350	.000150	.....	.....	
8,200	41,000	.001400	.000050	.....	.....	
8,400	42,000	.001450	.000050	.....	.....	
8,600	43,000	.001550	.000100	.....	.....	
8,800	44,000	.001600	.000050	.....	.....	
9,000	45,000	.001650	.000050	.....	.....	
9,200	46,000	.001750	.000100	.....	.....	Elastic limit.
9,400	47,000	.002050	.000300	.....	.....	
9,600	48,000	.002300	.000250	.....	.....	
9,800	49,000	.002650	.000350	.....	.....	
10,000	50,000	.003200	.000550	.....	.....	
10,200	51,000	.003550	.000350	.....	.....	
10,400	52,000	.004050	.000500	.....	.....	
10,600	53,000	.004750	.000700	.....	.....	
10,800	54,000	.005250	.000500	.....	.....	
11,000	55,000	.006050	.000800	.....	.....	
11,200	56,000	.006600	.000550	.....	.....	
11,600	58,000	.008050	.001450	.....	.....	
12,000	60,000	.010250	.002200	.....	.....	
12,400	62,000	.011500	.001250	.....	.....	
12,800	64,000	.013250	.001750	.....	.....	
13,200	66,000	.014800	.001550	.....	.....	
13,600	68,000	.016700	.001900	.....	.....	
14,000	70,000	.018750	.002050	.....	.....	
14,400	72,000	.021050	.002300	.....	.....	
14,800	74,000	.023500	.002450	.....	.....	
15,200	76,000	.026000	.002500	.....	.....	
15,600	78,000	.028750	.002750	.....	.....	
16,000	80,000	.032000	.003250	.....	.....	
16,400	82,000	.035000	.003000	.....	.....	
16,800	84,000	.038050	.003050	.....	.....	
17,200	86,000	.042400	.004350	.....	.....	
17,600	88,000	.047500	.005100	.....	.....	
18,000	90,000	.0525	.0050	.....	.....	
18,400	92,000	.0650	.0125	.....	.....	
18,800	94,000	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,000
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.0800
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.026
Reduction in area after rupture, per centum of original section		9.5
Position of rupture		".23 from neck
Character of broken surface		granular, flaky streaks; opened cracks in surface of stem
Elongation of inch sections		".06, ".10*

No. 2709.

Marks, $\frac{5\ R_1\ J}{B\ T_5\ M}$
Diameter, ".506.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000300	.000200	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000800	.000200	0.	.....	
6,000	30,000	.001000	.000200	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001350	.000200	0.	.....	
8,200	41,000	.001400	.000050	.....	.....	
8,400	42,000	.001450	.000050	.....	.....	
8,600	43,000	.001500	.000050	.....	.....	
8,800	44,000	.001550	.000050	.....	.....	
9,000	45,000	.001600	.000050	.....	.....	
9,200	46,000	.001650	.000050	.....	.....	Elastic limit.
9,400	47,000	.001900	.000250	.....	.....	
9,600	48,000	.004350	.002450	.....	.....	
9,800	49,000	.005000	.000650	.....	.....	
10,000	50,000	.005600	.000600	.....	.....	
10,400	52,000	.007150	.001550	.....	.....	
10,800	54,000	.008750	.001600	.....	.....	
11,200	56,000	.010250	.001500	.....	.....	
11,600	58,000	.011900	.001650	.....	.....	
12,000	60,000	.013550	.001650	.....	.....	
12,400	62,000	.015350	.001800	.....	.....	
12,800	64,000	.017250	.001900	.....	.....	
13,200	66,000	.019750	.002500	.....	.....	
13,600	68,000	.022000	.002250	.....	.....	
14,000	70,000	.024000	.002000	.....	.....	
14,400	72,000	.026100	.002100	.....	.....	
14,800	74,000	.028700	.002600	.....	.....	
15,200	76,000	.032000	.003300	.....	.....	
15,600	78,000	.034550	.002550	.....	.....	
16,000	80,000	.038500	.003950	.....	.....	
16,400	82,000	.042250	.003750	.....	.....	
16,800	84,000	.0450	.002750	.....	.....	
17,200	86,000	.0500	.0050	.....	.....	
17,600	88,000	.0600	.0100	.....	.....	
18,000	90,000	.0650	.0050	.....	.....	
18,400	92,000	.0800	.0150	.....	.....	
18,800	94,000	.1000	.0200	.....	.....	
18,950	94,750	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,750
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.1450
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.045
Reduction in area after rupture, per centum of original section		16.9
Position of rupture		".60 from neck
Character of broken surface, granular; dull flaky spot at the circumference; opened cracks in surface of stem.		
Elongation of inch sections		".14, ".15

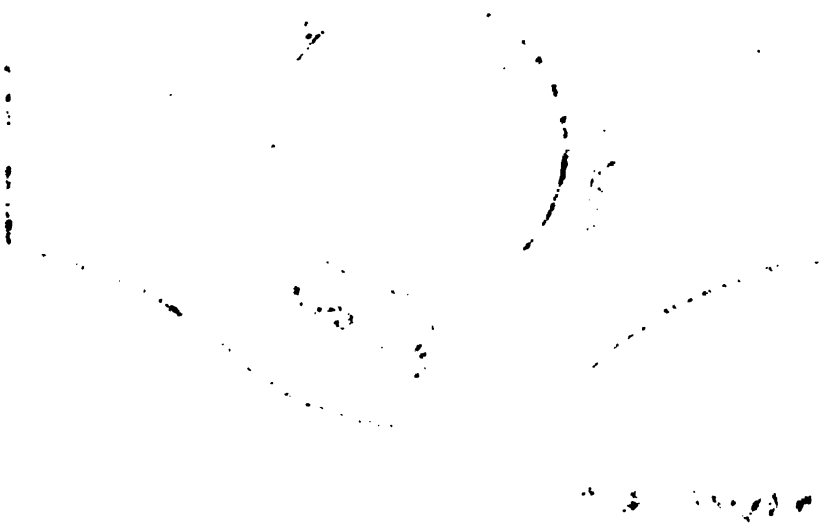
No. 2710.

Marks, $^{5\ R_1\ J}_{1\ B\ T_1\ M}$
Diameter, $^{//}.506$.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000650	.000200	0.	.....	
5,000	25,000	.000850	.000200	0.	.....	
6,000	30,000	.001050	.000200	0.	.....	
7,000	35,000	.001200	.000150	0.	.....	
8,000	40,000	.001350	.000150	0.	.....	
8,200	41,000	.001400	.000050	.....	.....	
8,400	42,000	.001450	.000050	.....	.....	
8,600	43,000	.001500	.000050	.....	.....	
8,800	44,000	.001550	.000050	.....	.....	
9,000	45,000	.001550	.0	.....	.....	
9,200	46,000	.001750	.000200	.....	.....	Elastic limit.
9,400	47,000	.002900	.001150	.....	.....	
9,600	48,000	.004000	.001100	.....	.....	
9,800	49,000	.004700	.000700	.....	.....	
10,000	50,000	.005150	.000450	.....	.....	
10,400	52,000	.006650	.001500	.....	.....	
10,800	54,000	.008000	.001350	.....	.....	
11,200	56,000	.009750	.001750	.....	.....	
11,600	58,000	.011550	.001800	.....	.....	
12,000	60,000	.012900	.001350	.....	.....	
12,400	62,000	.014800	.001900	.....	.....	
12,800	64,000	.016600	.001800	.....	.....	
13,200	66,000	.018500	.001900	.....	.....	
13,600	68,000	.020500	.002000	.....	.....	
14,000	70,000	.022650	.002150	.....	.....	
14,400	72,000	.025050	.002400	.....	.....	
14,800	74,000	.027500	.002450	.....	.....	
15,200	76,000	.030350	.002850	.....	.....	
15,600	78,000	.033550	.003200	.....	.....	
16,000	80,000	.036600	.003050	.....	.....	
16,400	82,000	.040600	.004000	.....	.....	
16,800	84,000	.044800	.004200	.....	.....	
17,200	86,000	.0500	.0052	.....	.....	
17,600	88,000	.0550	.0050	.....	.....	
18,000	90,000	.0650	.0100	.....	.....	
18,400	92,000	.0750	.0100	.....	.....	
18,800	94,000	.0950	.0200	.....	.....	
19,080	95,400	.1450	.0500	.....	.....	Tensile strength.

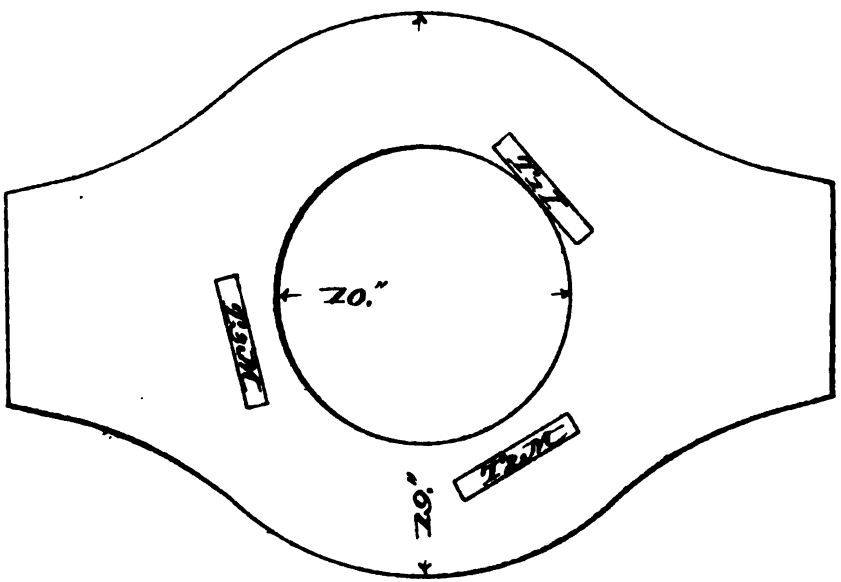
General summary.

Tensile strength per square inch of original section	pounds..	95,400
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		".75 from neck
Character of broken surface		silky
Elongation of inch sections		".11, ".34*



5" Steel B. L. Rifle No. 1

Trunnion Hoop



H Ex 31 49 2

No. 2542.

Marks, $\frac{5\,R_1\,T\,H}{T_1\,I}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000250	.000100	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000600	.000200	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000950	.000200	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001400	.000150	.....	.....	
9,200	46,000	.001450	.000050	.....	.....	
9,400	47,000	.001500	.000050	.....	.....	
9,600	48,000	.001500	0.	.....	.....	
9,800	49,000	.001550	.000050	.....	.....	
10,000	50,000	.001600	.000050	.....	.....	
10,200	51,000	.001600	0.	.....	.....	
10,400	52,000	.001650	.000050	.....	.....	
10,600	53,000	.001700	.000050	.....	.....	
10,800	54,000	.001750	.000050	.....	.....	
11,000	55,000	.001750	0.	.....	.....	
11,200	56,000	.001850	.000100	.....	.....	Elastic limit.
11,400	57,000	.005250	.003400	.....	.....	
11,600	58,000	.005850	.000600	.....	.....	
11,800	59,000	.006600	.000750	.....	.....	
12,000	60,000	.007550	.000950	.....	.....	
12,400	62,000	.009550	.002000	.....	.....	
12,800	64,000	.012000	.002450	.....	.....	
13,200	66,000	.014150	.002150	.....	.....	
13,600	68,000	.016250	.002100	.....	.....	
14,000	70,000	.018250	.002000	.....	.....	
14,400	72,000	.020000	.001750	.....	.....	
14,800	74,000	.021750	.001750	.....	.....	
15,200	76,000	.023000	.001250	.....	.....	
15,600	78,000	.024100	.001100	.....	.....	
16,000	80,000	.026750	.002650	.....	.....	
16,400	82,000	.030600	.003850	.....	.....	
16,800	84,000	.033050	.002450	.....	.....	
17,200	86,000	.036500	.003450	.....	.....	
17,600	88,000	.040600	.004100	.....	.....	
18,000	90,000	.045250	.004650	.....	.....	
18,400	92,000	.0500	.004750	.....	.....	
18,800	94,000	.0550	.0050	.....	.....	
19,200	96,000	.0650	.0100	.....	.....	
19,600	98,000	.0900	.0250	.....	.....	
19,900	99,500	.1350	.0450	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	99,500
Elastic limit per square inch of original section	do	56,000
Elongation per inch after rupture	inch	0.25000
Elongation per inch under strain at elastic limit	do	.001850
Reduction in diameter at point of rupture	do	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		1 inch from neck
Character of broken surface		fine, silky
Elongation of inch sections		″.34*, ″.1*

No. 2543.

Marks, $\frac{5\,R,\ T\,H}{T_2\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000350	.000250	0.	.....	
3,000	15,000	.000600	.000250	0.	.....	
4,000	20,000	.000700	.000100	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.000950	.000100	0.	.....	
7,000	35,000	.001100	.000150	0.	.....	
8,000	40,000	.001300	.000200	0.	.....	
9,000	45,000	.001450	.000150	.....	.....	
10,000	50,000	.001650	.000200	.....	.....	
10,200	51,000	.001700	.000050	.....	.....	
10,400	52,000	.001750	.000050	.....	.....	
10,600	53,000	.001750	0.	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	
11,000	55,000	.001900	.000100	.....	.....	Elastic limit.
11,200	56,000	.005400	.003500	.....	.....	
11,400	57,000	.006100	.000700	.....	.....	
11,600	58,000	.007050	.000950	.....	.....	
11,800	59,000	.007600	.000550	.....	.....	
12,000	60,000	.008550	.000950	.....	.....	
12,400	62,000	.010100	.001550	.....	.....	
12,800	64,000	.011850	.001750	.....	.....	
13,200	66,000	.013500	.001650	.....	.....	
13,600	68,000	.015500	.002000	.....	.....	
14,000	70,000	.017450	.001950	.....	.....	
14,400	72,000	.019500	.002050	.....	.....	
14,800	74,000	.021450	.001950	.....	.....	
15,200	76,000	.023550	.002100	.....	.....	
15,600	78,000	.026100	.002550	.....	.....	
16,000	80,000	.029000	.002900	.....	.....	
16,400	82,000	.032000	.003000	.....	.....	
16,800	84,000	.035150	.003150	.....	.....	
17,200	86,000	.038750	.003600	.....	.....	
17,600	88,000	.044550	.005850	.....	.....	
18,000	90,000	.0500	.005450	.....	.....	
18,400	92,000	.0550	.0050	.....	.....	
18,800	94,000	.0600	.0050	.....	.....	
19,200	96,000	.0750	.0150	.....	.....	
19,600	98,000	.1000	.0250	.....	.....	
19,820	99,100	.1400	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,100
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	3do...	.001900
Reduction in diameter at point of rupture	do...	.155
Reduction in area after rupture, per centum of original section		51.9
Position of rupture		1 inch from neck
Character of broken surface		fine, silky
Elongation of inch sections		".33", ".17

No. 2544.

Marks, $\frac{5\,R,\ T\,H}{T,\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

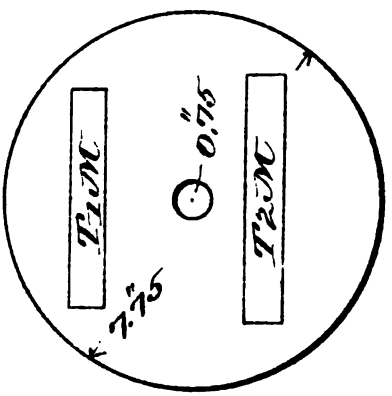
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000600	.000100	0.	.....	
5,000	25,000	.000700	.000100	0.	.....	
6,000	30,000	.000900	.000200	0.	.....	
7,000	35,000	.001050	.000150	0.	.....	
8,000	40,000	.001250	.000200	0.	.....	
9,000	45,000	.001400	.000150	.....	.....	
10,000	50,000	.001550	.000150	.....	.....	
10,200	51,000	.001550	0.	.....	.....	
10,400	52,000	.001600	.000050	.....	.....	
10,600	53,000	.001650	.000050	.....	.....	
10,800	54,000	.001650	0.	.....	.....	
11,000	55,000	.001700	.000050	.....	.....	
11,200	56,000	.001750	.000050	.....	.....	Elastic limit.
11,400	57,000	.001950	.000200	.....	.....	
11,600	58,000	.004100	.002150	.....	.....	
11,800	59,000	.005100	.001000	.....	.....	
12,000	60,000	.006050	.000950	.....	.....	
12,400	62,000	.008000	.001950	.....	.....	
12,800	64,000	.009550	.001550	.....	.....	
13,200	66,000	.011200	.001650	.....	.....	
13,600	68,000	.013050	.001850	.....	.....	
14,000	70,000	.015000	.001950	.....	.....	
14,400	72,000	.017000	.002000	.....	.....	
14,800	74,000	.019000	.002000	.....	.....	
15,200	76,000	.020850	.001850	.....	.....	
15,600	78,000	.023100	.002250	.....	.....	
16,000	80,000	.025600	.002500	.....	.....	
16,400	82,000	.028250	.002650	.....	.....	
16,800	84,000	.031250	.003000	.....	.....	
17,200	86,000	.034150	.002900	.....	.....	
17,600	88,000	.038500	.004350	.....	.....	
18,000	90,000	.043100	.004600	.....	.....	
18,400	92,000	.048750	.005650	.....	.....	
18,800	94,000	.0550	.006250	.....	.....	
19,200	96,000	.0600	.0050	.....	.....	
19,600	98,000	.0750	.0150	.....	.....	
20,000	100,000	.1050 .1250	.0300 .0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,000
Elastic limit per square inch of original section	....do ..	56,000
Elongation per inch after rupture	inch..	0.2250
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	....do...	.015
Reduction in area after rupture, per centum of original section		40.3
Position of rupture		1".1 from neck
Character of broken surface		silky; interspersed with granulation
Elongation of inch sections		".24", ".21

5" Steel B. L. Rifle No. 1

Breech Block



H Ex 31 492

No. 2529.

Marks, $\frac{5\,R_1\,B\,B}{T_1\,M}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000450	.000150	0.	.....	
4,000	20,000	.000600	.000150	0.	.....	
5,000	25,000	.000750	.000150	0.	.....	
6,000	30,000	.000900	.000150	0.	.....	
7,000	35,000	.001100	.000200	0.	.....	
8,000	40,000	.001250	.000150	0.	.....	
9,000	45,000	.001450	.000200	.....	.....	
10,000	50,000	.001600	.000150	.....	.....	
10,200	51,000	.001650	.000050	.....	.....	
10,400	52,000	.001700	.000050	.....	.....	
10,600	53,000	.001750	.000050	.....	.....	
10,800	54,000	.001800	.000050	.....	.....	
11,000	55,000	.001850	.000050	.....	.....	
11,200	56,000	.001900	.000050	.....	.....	Elastic limit.
11,400	57,000	.002150	.000250	.....	.....	
11,600	58,000	.002800	.000650	.....	.....	
11,800	59,000	.003700	.000900	.....	.....	
12,000	60,000	.004700	.001000	.....	.....	
12,400	62,000	.006250	.001550	.....	.....	
12,800	64,000	.007950	.001700	.....	.....	
13,200	66,000	.009500	.001550	.....	.....	
13,600	68,000	.011250	.001750	.....	.....	
14,000	70,000	.012850	.001600	.....	.....	
14,400	72,000	.014600	.001750	.....	.....	
14,800	74,000	.016500	.001900	.....	.....	
15,200	76,000	.018500	.002000	.....	.....	
15,600	78,000	.020600	.002100	.....	.....	
16,000	80,000	.022500	.001900	.....	.....	
16,400	82,000	.025000	.002500	.....	.....	
16,800	84,000	.027600	.002600	.....	.....	
17,200	86,000	.030000	.002400	.....	.....	
17,600	88,000	.034000	.004000	.....	.....	
18,000	90,000	.038000	.004000	.....	.....	
18,400	92,000	.042500	.004500	.....	.....	
18,800	94,000	.047000	.004500	.....	.....	
19,200	96,000	.0550	.0080	.....	.....	
19,600	98,000	.0650	.0100	.....	.....	
20,000	100,000	.0700	.0050	.....	.....	
20,400	102,000	.0950	.0250	.....	.....	
20,500	102,500	.1150	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	102,500
Elastic limit per square inch of original section	do...	56,000
Elongation per inch after rupture	inch..	0.2050
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do ..	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		1″.05 from neck
Character of broken surface		granular, 40 per centum; silky, 60 per centum
Elongation of inch sections		″.17, ″.24*

No. 656.

Marks, $^{5\,R_1\,B\,B}_{T_2\,M}$
Length, 4″.502.
Diameter, ″.798.
Sectional area, .50 square inch.

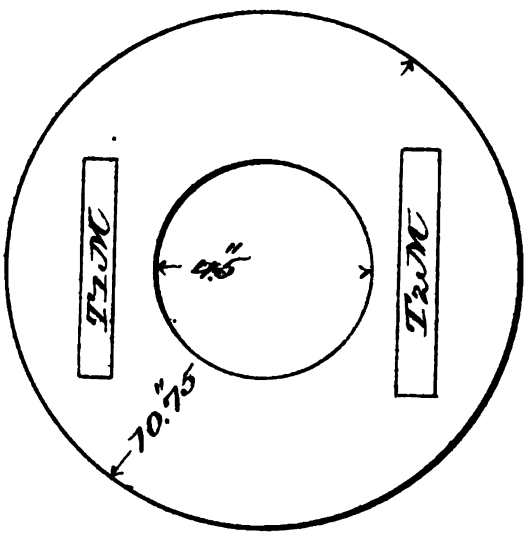
Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000267	.000167	0.	.....	
7,500	15,000	.000433	.000166	0.	.....	
10,000	20,000	.000600	.000167	0.	.....	
12,500	25,000	.000733	.000133	0.	.....	
15,000	30,000	.000867	.000134	0.	.....	
17,500	35,000	.001067	.000200	.....	.....	
20,000	40,000	.001267	.000200	.....	.....	
22,500	45,000	.001433	.000166	.....	.....	
25,000	50,000	.001600	.000167	.....	.....	
25,500	51,000	.001667	.000067	.....	.....	
26,000	52,000	.001667	0.	.....	.....	
26,500	53,000	.001733	.000066	.....	.....	
27,000	54,000	.001767	.000034	.....	.....	
27,500	55,000	.001733	— .000034	.....	.....	Elastic limit.
28,000	56,000	.001867	.000134	.....	.....	
28,500	57,000	.002267	.000400	.....	.....	
29,000	58,000	.002933	.000666	.....	.....	
29,500	59,000	.003500	.000567	.....	.....	
30,000	60,000	.004033	.000533	.....	.....	
51,050	102,100	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	55,000
Compression per inch under stress at elastic limit	inch..	0.001733
Ultimate strength per square inch of original section	pounds..	102,100
Manner of failure		triple flexure

5" Steel B. L. Rifle No. 1

Base Ring



H Ex 31 492

No. 2526.

Marks, $\frac{5\,R_1\,B\,R}{T_1\,M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000350	.000200	0.		
3,000	15,000	.000550	.000200	0.		
4,000	20,000	.000700	.000150	0.		
5,000	25,000	.000800	.000100	0.		
6,000	30,000	.001000	.000200	0.		
7,000	35,000	.001200	.000200			
8,000	40,000	.001400	.000200			
9,000	45,000	.001550	.000150			
10,000	50,000	.001700	.000150			
10,200	51,000	.001750	.000050			
10,400	52,000	.001750	0.			
10,600	53,000	.001800	.000050			
10,800	54,000	.001850	.000050			
11,000	55,000	.001950	.000100			
11,200	56,000	.002050	.000100			
11,400	57,000	.002100	.000050			
11,600	58,000	.002200	.000100			Elastic limit.
11,800	59,000	.002500	.000300			
12,000	60,000	.002900	.000400			
12,400	62,000	.004550	.001650			
12,800	64,000	.006200	.001650			
13,200	66,000	.007500	.001300			
13,600	68,000	.008750	.001250			
14,000	70,000	.010500	.001750			
14,400	72,000	.012000	.001500			
14,800	74,000	.013750	.001750			
15,200	76,000	.015350	.001600			
15,600	78,000	.017100	.001750			
16,000	80,000	.019000	.001900			
16,400	82,000	.020800	.001800			
16,800	84,000	.023050	.002250			
17,200	86,000	.025000	.001950			
17,600	88,000	.027600	.002600			
18,000	90,000	.030600	.003000			
18,400	92,000	.033500	.002900			
18,800	94,000	.036250	.002750			
19,200	96,000	.040000	.003750			
19,600	98,000	.044550	.004550			
20,000	100,000	.050000	.005450			
20,400	102,000	.056250	.006250			
20,800	104,000	.0650	.008750			
21,200	106,000	.0850	.0200			
21,400	107,000	.1200	.0350			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	107,000
Elastic limit per square inch of original section	do...	58,000
Elongation per inch after rupture	inch .	0.1950
Elongation per inch under strain at elastic limit	do...	.002200
Reduction in diameter at point of rupture	do...	.095
Reduction in area after rupture, per centum of original section		34.0
Position of rupture		¾ inch from neck
Character of broken surface		granular; dull silky center
Elongation of inch sections		".25*, ".14

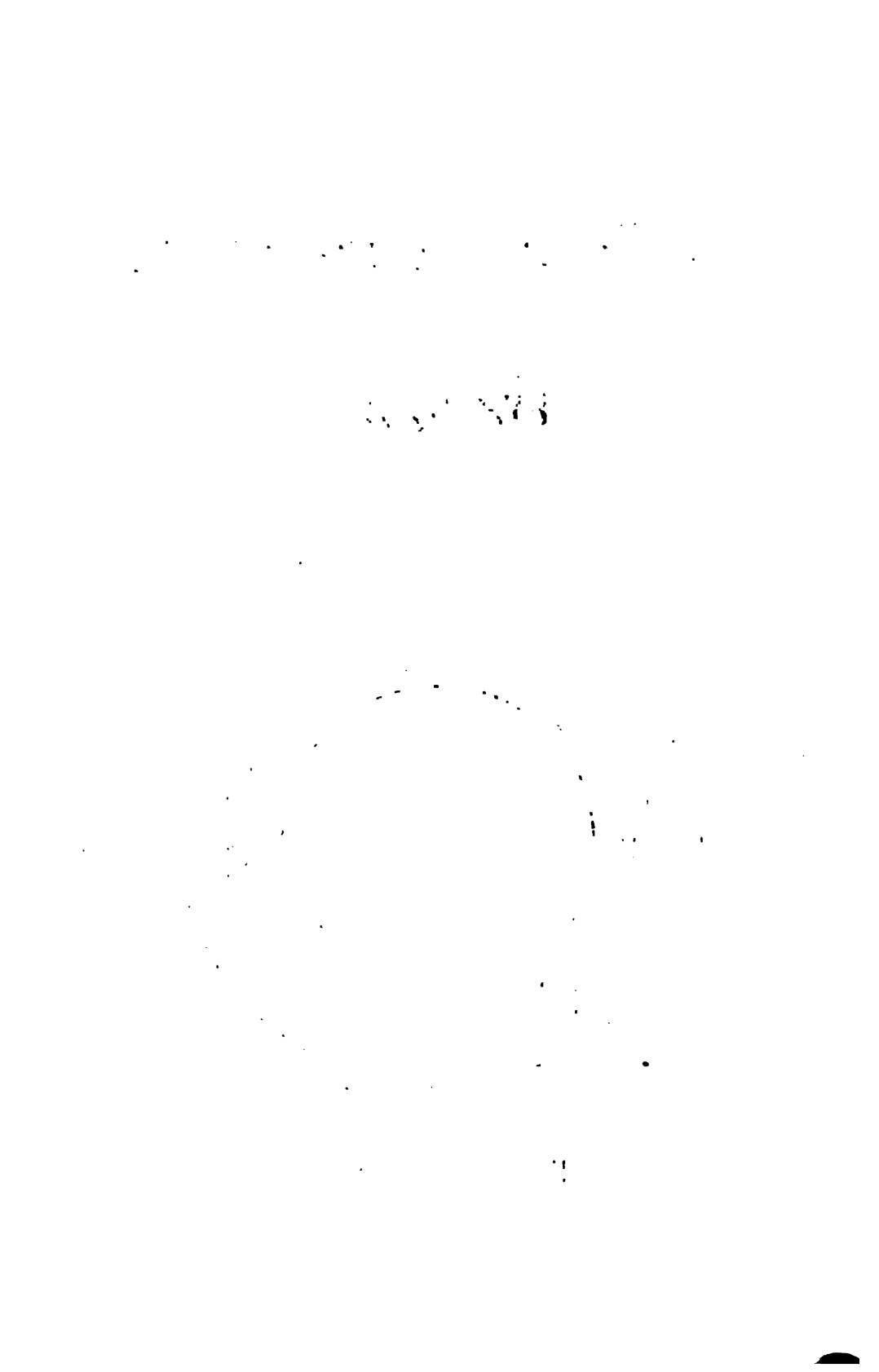
No. 655.

Marks, $\frac{5\ R_1\ B\ R}{T,\ M}$
Length, 4″.504.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000233	.000133	0.	.....	
7,500	15,000	.000367	.000134	0.	.....	
10,000	20,000	.000533	.000166	0.	.....	
12,500	25,000	.000700	.000167	0.	.....	
15,000	30,000	.000867	.000167	0.	.....	
17,500	35,000	.001067	.000200	.....	.....	
20,000	40,000	.001233	.000166	.....	.....	
22,500	45,000	.001367	.000134	.....	.....	
25,000	50,000	.001500	.000133	.....	.....	
25,500	51,000	.001567	.000067	.....	.....	
26,000	52,000	.001667	.000100	.....	.....	
26,500	53,000	.001700	.000033	.....	.....	
27,000	54,000	.001733	.000033	.....	.....	
27,500	55,000	.001833	.000100	.....	.....	
28,000	56,000	.001867	.000034	.....	.....	
28,500	57,000	.001900	.000033	.....	.....	Elastic limit.
29,000	58,000	.002033	.000133	.....	.....	
29,500	59,000	.002133	.000100	.....	.....	
30,000	60,000	.002533	.000400	.....	.....	
30,500	61,000	.003467	.000934	.....	.....	
31,000	62,000	.004000	.000533	.....	.....	
31,500	63,000	.004600	.000600	.....	.....	
32,000	64,000	.005333	.000733	.....	.....	
52,400	104,800	.....	.....	.....	.....	Ultimate strength.

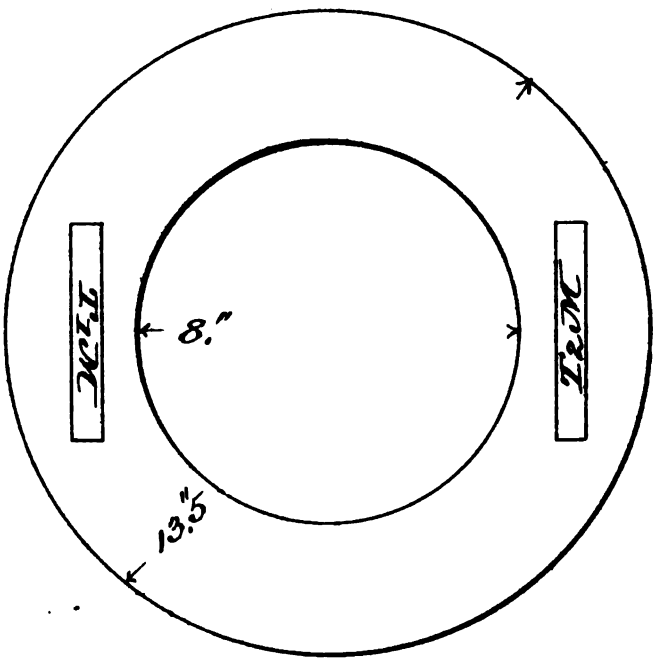
General summary.

Elastic limit per square inch of original section	pounds..	57,000
Compression per inch under stress at elastic limit	inch..	0.00190
Ultimate strength per square inch of original section	pounds..	104,800
Manner of failure		triple flexure



5" Steel B. L. Rifle No. 1

Sleeve



H Ex 31 49 2

No. 2527.

Marks, $\frac{S\ R_1\ S}{T_1\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.		
2,000	10,000	.000350	.000200	0.		
3,000	15,000	.000550	.000200	0.		
4,000	20,000	.000750	.000200	0.		
5,000	25,000	.000950	.000200	0.		
6,000	30,000	.001100	.000150	0.		
7,000	35,000	.001300	.000200	.000050	.000050	
8,000	40,000	.001450	.000150	.000050	0.	
9,000	45,000	.001550	.000100			
10,000	50,000	.001750	.000200			
10,200	51,000	.001850	.000100			Elastic limit.
10,400	52,000	.002000	.000150			
10,600	53,000	.002150	.000150			
10,800	54,000	.003050	.000900			
11,000	55,000	.004200	.001150			
11,200	56,000	.004900	.000700			
11,400	57,000	.006000	.001100			
11,600	58,000	.006750	.000750			
11,800	59,000	.007550	.000800			
12,000	60,000	.008500	.000950			
12,400	62,000	.010000	.001500			
12,800	64,000	.011650	.001650			
13,200	66,000	.013600	.001950			
13,600	68,000	.015250	.001650			
14,000	70,000	.017050	.001800			
14,400	72,000	.019000	.001950			
14,800	74,000	.021000	.002000			
15,200	76,000	.023050	.002050			
15,600	78,000	.025550	.002500			
16,000	80,000	.028200	.002650			
16,400	82,000	.031250	.003050			
16,800	84,000	.034250	.003000			
17,200	86,000	.038000	.003750			
17,600	88,000	.042050	.004050			
18,000	90,000	.047150	.005100			
18,400	92,000	.0550	.005850			
18,800	94,000	.0600	.0050			
19,200	96,000	.0750	.0150			
19,600	98,000	.1000	.0250			
19,780	98,900	.1500	.0500			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	98,900
Elastic limit per square inch of original section	do	51,000
Elongation per inch after rupture	inch	0.2450
Elongation per inch under strain at elastic limit	do	.001850
Reduction in diameter at point of rupture	do	.135
Reduction in area after rupture, per centum of original section		46.2
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".26", ".23"

No. 2528.

Marks, $\frac{5\ R_1\ S}{T_2\ M}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.		
2,000	10,000	.000250	.000150	0.		
3,000	15,000	.000450	.000200	0.		
4,000	20,000	.000600	.000150	0.		
5,000	25,000	.000800	.000200	0.		
6,000	30,000	.001000	.000200	0.		
7,000	35,000	.001100	.000100	0.		
8,000	40,000	.001250	.000150	0.		
9,000	45,000	.001450	.000200			
10,000	50,000	.001600	.000150			
10,200	51,000	.001650	.000050			
10,400	52,000	.001700	.000050			
10,600	53,000	.001750	.000050			
10,800	54,000	.001800	.000050			
11,000	55,000	.001850	.000050			Elastic limit.
11,200	56,000	.002000	.000150			
11,400	57,000	.002250	.000250			
11,600	58,000	.002850	.000600			
11,800	59,000	.003650	.000800			
12,000	60,000	.004350	.000700			
12,400	62,000	.006250	.001900			
12,800	64,000	.007500	.001250			
13,200	66,000	.009500	.002000			
13,600	68,000	.011000	.001500			
14,000	70,000	.012700	.001700			
14,400	72,000	.014250	.001550			
14,800	74,000	.016000	.001750			
15,200	76,000	.018000	.002000			
15,600	78,000	.019750	.001750			
16,000	80,000	.021750	.002000			
16,400	82,000	.024000	.002250			
16,800	84,000	.026250	.002250			
17,200	86,000	.029000	.002750			
17,600	88,000	.032000	.003000			
18,000	90,000	.035000	.003000			
18,400	92,000	.038500	.003500			
18,800	94,000	.043500	.005000			
19,200	96,000	.048250	.004750			
19,600	98,000	.0550	.006750			
20,000	100,000	.0650	.0100			
20,400	102,000	.0750	.0100			
20,790	103,950	.1150	.0400			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	103,950
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do...	.001850
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		".96 from neck
Character of broken surface		silky
Elongation of inch sections		".17, ".29

OBTURATOR STEM.

No. 654.

Marks, $^{5\,R_1\,O\,S}_{L}$
Length, 4″.504.
Diameter, ″.798
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000067	.000067	— .000033	— .000033	
5,000	10,000	.000233	.000166	— .000033	0.	
7,500	15,000	.000400	.000167	— .000067	— .000034	
10,000	20,000	.000567	.000167	— .000067	0.	
12,500	25,000	.000767	.000200	— .000067	0.	
15,000	30,000	.000900	.000133	— .000067	0.	
17,500	35,000	.001067	.000167	.....	.....	
20,000	40,000	.001233	.000166	.....	.....	
22,500	45,000	.001400	.000167	.....	.....	
25,000	50,000	.001533	.000133	.....	.....	
25,500	51,000	.001567	.000034	.....	.....	
26,000	52,000	.001600	.000033	.....	.....	
26,500	53,000	.001633	.000033	.....	.....	
27,000	54,000	.001667	.000034	.....	.....	
27,500	55,000	.001667	0.	.....	.....	
28,000	56,000	.001667	0.	.....	.....	
28,500	57,000	.001667	0.	.....	.....	
29,000	58,000	.001700	.000033	.....	.....	
29,500	59,000	.001667	— .000033	.....	.....	Elastic limit.
30,000	60,000	.002933	.001266	.....	.....	
30,500	61,000	.004267	.001334	.....	.....	
31,000	62,000	.005367	.001100	.....	.....	
31,500	63,000	.006200	.000833	.....	.....	
32,000	64,000	.007867	.001667	.....	.....	
50,800	101,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	59,000
Compression per inch under stress at elastic limit	inch..	0.001667
Ultimate strength per square inch of original section	pounds..	101,600
Manner of failure		triple flexure

TABULATION OF TENSION SPECIMENS FROM 5-INCH STEEL B. L. RIFLE NO. 1.

Number of test.	Position in gun.	Location of specimens.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.
			Pounds.	*Pounds.*	*Per ct.*	*Per ct.*	
2530	Tube	Middle	42,000	79,000	29.5	51.9	Silky.
2531	do	do	42,000	80,050	26.5	54.6	Do.
2532	do	do	42,000	83,050	20.5	34.0	Granular, 65 per cent.; silky, 35 per cent.
2533	do	do	42,000	82,850	24.5	46.2	Silky.
2551	Jacket	Inside	48,000	93,600	6.5	9.5	Granular; line of flaky metal.
2552	do	Middle	45,000	95,600	22.5	43.3	Silky.
2553	do	do	55,000	106,550	18.5	27.4	Granular; dull spot.
2554	do	do	56,000	105,700	16.0	27.4	Do.
*2708	do	Inside	46,000	94,000	8.0	9.5	Granular; flaky streaks.
*2709	do	Middle	46,000	94,750	14.5	16.9	Granular; dull flaky spot.
*2710	do	do	46,000	95,400	22.5	46.2	Silky.
2542	Trunnion hoop	Inside	56,000	99,500	25.0	51.9	Fine, silky.
2543	do	Middle	55,000	99,100	25.0	51.9	Do.
2544	do	do	56,000	100,000	22.5	40.3	Silky, interspersed with granular.
2529	Breech-block	do	56,000	102,500	20.5	34.0	Granular, 40 per cent.; silky, 60 per cent.
2526	Base ring	do	58,000	107,000	19.5	34.0	Granular; dull silky center.
2527	Sleeve	do	51,000	98,900	24.5	46.2	Silky.
2528	do	do	55,000	103,950	23.0	43.3	Do.

*Additional specimen.

TABULATION OF COMPRESSION SPECIMENS FROM 5-INCH STEEL B. L. RIFLE NO. 1

Number of tests.	Position in gun.	Location of specimens.	Elastic limit per square inch.	Ultimate strength per square inch.	Manner of failure.
			Pounds.	*Pounds.*	
657	Tube	Middle	45,000	80,760	Triple flexure.
659	Jacket	do	46,000	91,320	Do.
656	Breech-block	do	55,000	102,100	Do.
655	Base ring	do	57,000	104,800	Do.
654	Obturator stem	.....	59,000	101,600	Do.

8-INCH STEEL B. L. RIFLE NO. 1.

STEEL SPECIMENS

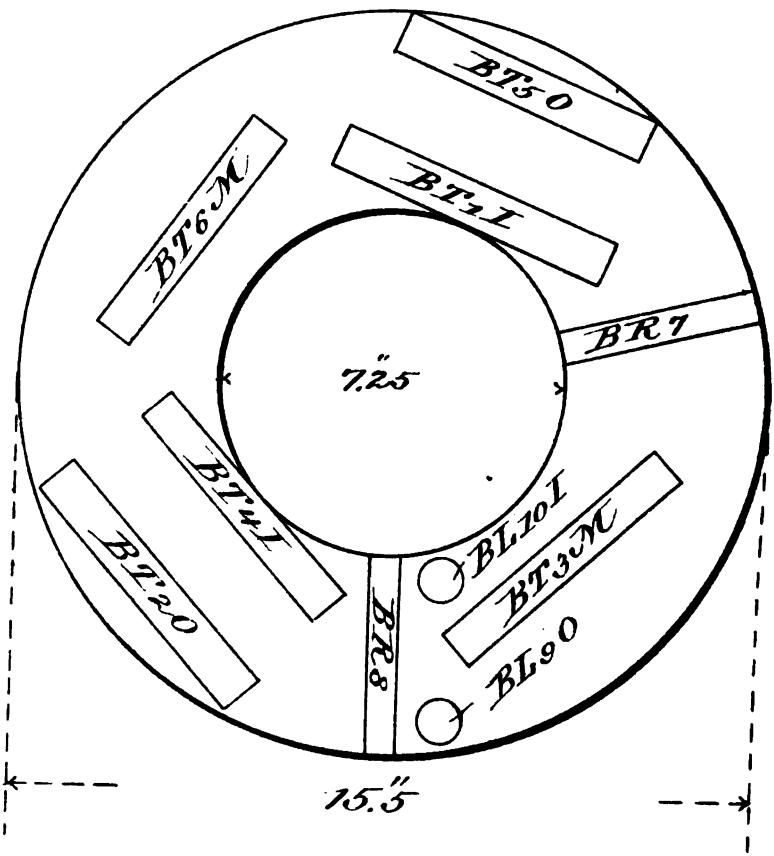
FROM

TUBE, TRUNNION-HOOP, AND COUPLING-PIN.

8" Steel B.L. Rifle No.1.

Tube

Breech end



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SPECIMENS FROM 8-INCH STEEL B. L. RIFLE NO. 1.

TUBE.

No. 2335.

Marks, $\frac{8\,B_1\,T}{B\,T_1\,I}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000300	.000133	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000600	.000133	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001300	.000200	.000067	.000067	Elastic limit.
10,250	41,000	.001500	.000200	.....	.....	
10,500	42,000	.002033	.000533	.....	.....	
10,750	43,000	.002600	.000567	.....	.....	
11,000	44,000	.004833	.002233	.....	.....	
11,250	45,000	.005767	.000934	.....	.....	
11,500	46,000	.007000	.001233	.....	.....	
11,750	47,000	.007933	.000933	.....	.....	
12,000	48,000	.009067	.001134	.....	.....	
12,250	49,000	.009933	.000866	.....	.....	
12,500	50,000	.011333	.001400	.....	.....	
13,000	52,000	.013367	.002034	.....	.....	
13,500	54,000	.015833	.002466	.....	.....	
14,000	56,000	.018433	.002600	.....	.....	
14,500	58,000	.021433	.003000	.....	.....	
15,000	60,000	.024500	.003067	.....	.....	
15,500	62,000	.028000	.003500	.....	.....	
16,000	64,000	.031500	.003500	.....	.....	
16,500	66,000	.035500	.004000	.....	.....	
17,000	68,000	.040333	.004833	.....	.....	
17,500	70,000	.046000	.005667	.....	.....	
18,000	72,000	.053167	.007167	.....	.....	
18,500	74,000	.061667	.008500	.....	.....	
19,000	76,000	.0733	.011633	.....	.....	
19,500	78,000	.0967	.0234	.....	.....	
19,940	79,760	.1533	.0566	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,760
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2367
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.155
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		".80 from neck
Character of broken surface		silky
Elongation of inch sections		".12, ".17, ".39

No. 2336.

Marks, $\begin{smallmatrix} S & R_1 & T \\ B & T_2 & O \end{smallmatrix}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001300	.000167	0.	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001400	.000067	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	
11,000	44,000	.001467	.000034	.....	.....	Elastic limit.
11,250	45,000	.001767	.000300	.....	.....	
11,500	46,000	.003567	.001800	.....	.....	
11,750	47,000	.004500	.000933	.....	.....	
12,000	48,000	.005800	.001300	.....	.....	
12,250	49,000	.006800	.001000	.....	.....	
12,500	50,000	.008067	.001267	.....	.....	
13,000	52,000	.009833	.001766	.....	.....	
13,500	54,000	.012033	.002200	.....	.....	
14,000	56,000	.014167	.002134	.....	.....	
14,500	58,000	.016333	.002166	.....	.....	
15,000	60,000	.018833	.002500	.....	.....	
15,500	62,000	.021500	.002667	.....	.....	
16,000	64,000	.024400	.002900	.....	.....	
16,500	66,000	.027500	.003100	.....	.....	
17,000	68,000	.031000	.003500	.....	.....	
17,500	70,000	.035033	.004033	.....	.....	
18,000	72,000	.039700	.004667	.....	.....	
18,500	74,000	.045500	.005800	.....	.....	
19,000	76,000	.052000	.006500	.....	.....	
19,500	78,000	.060667	.008667	.....	.....	
20,000	80,000	.0700	.009333	.....	.....	
20,500	82,000	.0967	.0267	.....	.....	
20,880	83,440	.1367	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds...	83,440
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch...	0.2267
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		48.7
Position of rupture		1″.30 from neck
Character of broken surface		silky; trace of granulation
Elongation of inch sections		″.34, ″.22, ″.11

No. 2337.

Marks, $\frac{S\ R_1\ T}{B\ T_1\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000533	.000200	0.	.....	
5,000	20,000	.000700	.000167	0.	.....	
6,250	25,000	.000833	.000133	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
10,000	40,000	.001400	.000233	.000033	.000033	
10,250	41,000	.001433	.000033	.....	.....	
10,500	42,000	.001467	.000034	.....	.....	
10,750	43,000	.001533	.000066	.....	.....	Elastic limit.
11,000	44,000	.001667	.000134	.....	.....	
11,250	45,000	.003000	.001333	.....	.....	
11,500	46,000	.004100	.001100	.....	.....	
11,750	47,000	.005067	.000967	.....	.....	
12,000	48,000	.006400	.001333	.....	.....	
12,250	49,000	.007267	.000867	.....	.....	
12,500	50,000	.008333	.001066	.....	.....	
13,000	52,000	.010200	.001867	.....	.....	
13,500	54,000	.012367	.002167	.....	.....	
14,000	56,000	.014667	.002300	.....	.....	
14,500	58,000	.016833	.002166	.....	.....	
15,000	60,000	.019333	.002500	.....	.....	
15,500	62,000	.021833	.002500	.....	.....	
16,000	64,000	.024700	.002867	.....	.....	
16,500	66,000	.028167	.003467	.....	.....	
17,000	68,000	.031667	.003500	.....	.....	
17,500	70,000	.035833	.004166	.....	.....	
18,000	72,000	.040000	.004167	.....	.....	
18,500	74,000	.045500	.005500	.....	.....	
19,000	76,000	.052000	.006500	.....	.....	
19,500	78,000	.060000	.008000	.....	.....	
20,000	80,000	.0733	.0133	.....	.....	
20,500	82,000	.0967	.0234	.....	.....	
20,850	83,400	.1400	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,400
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do...	.001533
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		at middle of stem
Character of broken surface		silky; slightly granular
Elongation of inch sections		".13, ".41*, ".15

No. 638.

Marks, $\frac{S\ R_1\ T}{B\ T_4\ I}$
Length, 5″.002.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000333	.000200	0.	.....	
7,500	15,000	.000500	.000167	0.	.....	
10,000	20,000	.000667	.000167	.000033	.000033	
12,500	25,000	.000900	.000233	.000100	.000067	
15,000	30,000	.001100	.000200	.000133	.000033	
17,500	35,000	.001267	.000167	.000167	.000034	
18,000	36,000	.001300	.000033	.....	.....	
18,500	37,000	.001333	.000033	.....	.....	
19,000	38,000	.001367	.000034	.....	.....	
19,500	39,000	.001400	.000033	.....	.....	Elastic limit.
20,000	40,000	.001533	.000133	.000300	.000133	
20,500	41,000	.005200	.003667	.....	.....	
21,000	42,000	.006300	.001100	.....	.....	
21,500	43,000	.007233	.000933	.....	.....	
22,000	44,000	.008133	.000900	.....	.....	
35,180	70,360	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	39,000
Compression per inch under stress at elastic limit	inch..	0.001400
Ultimate strength per square inch of original section	pounds..	70,360
Manner of failure		triple flexure

No. 637.

Marks, $\frac{8\,R_1\,T}{B\,T_5\,O}$
Length, 4″.998.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000033	.000033	—.000033	—.000033	
5,000	10,000	.000167	.000134	—.000033	0.	
7,500	15,000	.000300	.000133	—.000033	0.	
10,000	20,000	.000467	.000167	—.000033	0.	
12,500	25,000	.000667	.000200	0.	.000033	
15,000	30,000	.000833	.000166	0.	.....	
17,500	35,000	.001000	.000167	0.	.....	
20,000	40,000	.001200	.000200	0.	.....	
20,500	41,000	.001233	.000033	.....	.....	
21,000	42,000	.001300	.000067	.....	.....	
21,500	43,000	.001333	.000033	.....	.....	
22,000	44,000	.001400	.000067	.....	.....	
22,500	45,000	.001433	.000033	0.	.....	
23,000	46,000	.001467	.000034	.....	.....	
23,500	47,000	.001500	.000033	.....	.....	Elastic limit.
24,000	48,000	.002133	.000633	.....	.....	
24,500	49,000	.004000	.001867	.....	.....	
25,000	50,000	.005233	.001233	.003267	.003267	
40,650	81,300	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	47,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds..	81,300
Manner of failure		triple flexure

No. 639.

Marks, $\frac{S\ R_1\ T}{B\ T_2\ M}$
Length, 4″.992.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000267	.000167	0.	.....	
7,500	15,000	.000433	.000166	0.	.....	
10,000	20,000	.000600	.000167	0.	.....	
12,500	25,000	.000767	.000167	.000033	.000033	
15,000	30,000	.000967	.000200	.000067	.000034	
17,500	35,000	.001167	.000200	.000067	0.	
18,000	36,000	.001233	.000066	.....	.....	
18,500	37,000	.001300	.000067	.....	.....	
19,000	38,000	.001367	.000067	.....	.....	
19,500	39,000	.001433	.000066	.....	.....	
20,000	40,000	.001500	.000067	.000167	.000100	Elastic limit.
20,500	41,000	.001633	.000133	.....	.....	
21,000	42,000	.005533	.003900	.....	.....	
21,500	43,000	.006767	.001234	.....	.....	
22,000	44,000	.007833	.001066	.....	.....	
36,420	72,840	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	40,000
Compression per inch under stress at elastic limit	inch..	0.001500
Ultimate strength per square inch of original section	pounds..	72,840
Manner of failure		triple flexure

No. 642.

Marks, $\frac{S\ R,\ T}{B\ R,}$
Length, 4".004.
Diameter, ".798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000400	.000250	0.	.....	
7,500	15,000	.000550	.000150	0.	.....	
10,000	20,000	.000700	.000150	0.	.....	
12,500	25,000	.000850	.000150	0.	.....	
15,000	30,000	.001000	.000150	0.	.....	
17,500	35,000	.001150	.000150	0.	.....	
20,000	40,000	.001300	.000150	0.	.....	
20,500	41,000	.001350	.000050	.....	.....	
21,000	42,000	.001400	.000050	.....	.....	
21,500	43,000	.001400	0.	.....	.....	
22,000	44,000	.001450	.000050	.....	.....	Elastic limit.
22,500	45,000	.002100	.000650	.....	.....	
23,000	46,000	.002850	.000750	.....	.....	
23,500	47,000	.003750	.000900	.....	.....	
24,000	48,000	.004400	.000650	.....	.....	
24,500	49,000	.005400	.001000	.....	.....	
25,000	50,000	.006550	.001150	.....	.....	
46,850	93,700	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	44,000
Compression per inch under stress at elastic limit	inch..	0.001450
Ultimate strength per square inch of original section	pounds..	93,700
Manner of failure		triple flexure

No. 643.

Marks, $^{8\ R_1\ T}_{B\ R_2}$
Length, 4″.003.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000250	.000100	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000600	.000200	0.	.....	
12,500	25,000	.000750	.000150	0.	.....	
15,000	30,000	.000900	.000150	0.	.....	
17,500	35,000	.001100	.000200	0.	.....	
20,000	40,000	.001250	.000150	.000050	.0000050	
20,500	41,000	.001300	.000050	.....	.....	
21,000	42,000	.001300	0.	.....	.....	Elastic limit.
21,500	43,000	.002000	.000700	.....	.....	
22,000	44,000	.002900	.000900	.....	.....	
22,500	45,000	.003450	.000550	.....	.....	
23,000	46,000	.004350	.000900	.....	.....	
23,500	47,000	.005550	.001200	.....	.....	
24,000	48,000	.006250	.000700	.....	.....	
24,500	49,000	.006950	.000700	.....	.....	
25,000	50,000	.007800	.000850	.....	.....	
44,940	89,880	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	42,0[illegible]
Compression per inch under stress at elastic limit	inch..	0.00130[illegible]
Ultimate strength per square inch of original section	pounds..	89,8[illegible]
Manner of failure		triple flexure

No. 2338.

Marks, $\frac{S\ R_1\ T}{B\ L_2\ O}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000100	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000550	.000200	0.	.....	
4,000	20,000	.000700	.000150	0.	.....	
5,000	25,000	.000850	.000150	0.	.....	
6,000	30,000	.001000	.000150	0.	.....	
7,000	35,000	.001150	.000150	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
8,200	41,000	.001350	.000050	.....	.....	
8,400	42,000	.001400	.000050	.....	.....	
8,600	43,000	.001450	.000050	.....	.....	
8,800	44,000	.001500	.000050	.....	.....	
9,000	45,000	.001500	0.	0.	.....	
9,200	46,000	.001550	.000050	.....	.....	
9,400	47,000	.001550	0.	.....	.....	
9,600	48,000	.001600	.000050	.....	.....	
9,800	49,000	.001650	.000050	.....	.....	Elastic limit.
10,000	50,000	.002900	.001250	.....	.....	
10,200	51,000	.004250	.001350	.....	.....	
10,400	52,000	.005000	.000750	.....	.....	
10,600	53,000	.006000	.001000	.....	.....	
10,800	54,000	.007000	.001000	.....	.....	
11,000	55,000	.007900	.000900	.....	.....	
11,200	56,000	.008750	.000850	.....	.....	
11,400	57,000	.009750	.001000	.....	.....	
11,600	58,000	.010500	.000750	.....	.....	
11,800	59,000	.011900	.001400	.....	.....	
12,000	60,000	.012750	.000850	.....	.....	
12,400	62,000	.014750	.002000	.....	.....	
12,800	64,000	.017000	.002250	.....	.....	
13,200	66,000	.019250	.002250	.....	.....	
13,600	68,000	.021750	.002500	.....	.....	
14,000	70,000	.025000	.003250	.....	.....	
14,400	72,000	.028500	.003500	.....	.....	
14,800	74,000	.031500	.003000	.....	.....	
15,200	76,000	.035000	.003500	.....	.....	
15,600	78,000	.039250	.004250	.....	.....	
16,000	80,000	.044000	.004750	.....	.....	
16,400	82,000	.051500	.007500	.....	.....	
16,800	84,000	.0650	.0135	.....	.....	
17,200	86,000	.0750	.0100	.....	.....	
17,600	88,000	.0900	.0150	.....	.....	
17,900	89,500	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,500
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2650
Elongation per inch under strain at elastic limit	do...	.001650
Reduction in diameter at point of rupture	do...	.165
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		".8 from neck
Character of broken surface		silky
Elongation of inch sections		".39", ".14

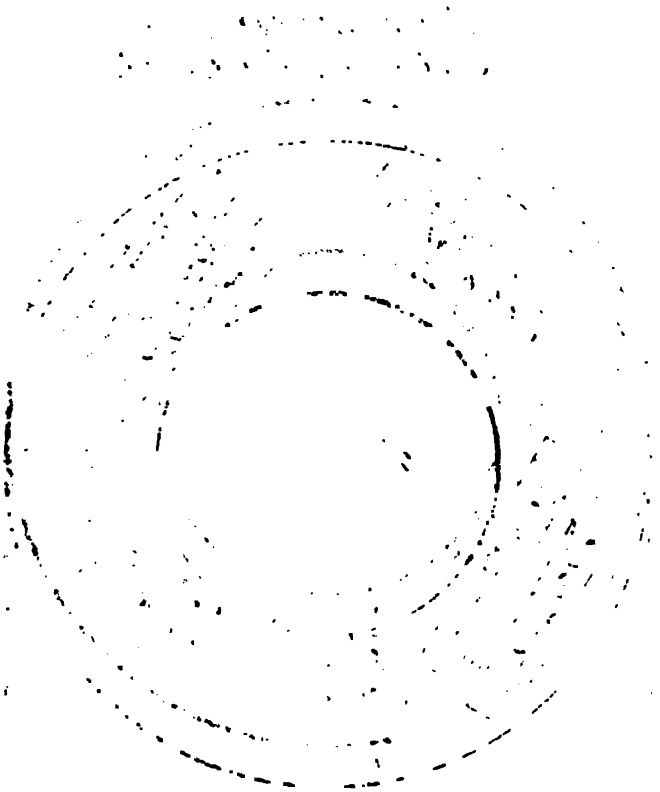
No. 2339.

Marks, $\frac{S\ R_1\ T}{B\ L_{16}\ I}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000100	.000100	0.	.....	
2,000	10,000	.000250	.000150	0.	.....	
3,000	15,000	.000400	.000150	0.	.....	
4,000	20,000	.000500	.000100	0.	.....	
5,000	25,000	.000650	.000150	0.	.....	
6,000	30,000	.000850	.000200	0.	.....	
7,000	35,000	.001000	.000150	0.	.....	
8,000	40,000	.001150	.000150	0.	.....	
9,000	45,000	.001400	.000250	.....	.....	
9,200	46,000	.001450	.000050	.....	.....	Elastic limit.
9,400	47,000	.002600	.001150	.....	.....	
9,600	48,000	.003000	.000400	.....	.....	
9,800	49,000	.004150	.001150	.....	.....	
10,000	50,000	.006000	.001850	.....	.....	
10,200	51,000	.007000	.001000	.....	.....	
10,400	52,000	.008000	.001000	.....	.....	
10,600	53,000	.009150	.001150	.....	.....	
10,800	54,000	.010000	.000850	.....	.....	
11,000	55,000	.011000	.001000	.....	.....	
11,200	56,000	.012000	.001000	.....	.....	
11,400	57,000	.013250	.001250	.....	.....	
11,600	58,000	.014600	.001350	.....	.....	
11,800	59,000	.015700	.001100	.....	.....	
12,000	60,000	.017000	.001300	.....	.....	
12,400	62,000	.019750	.002750	.....	.....	
12,800	64,000	.022500	.002750	.....	.....	
13,200	66,000	.025500	.003000	.....	.....	
13,600	68,000	.029000	.003550	.....	.....	
14,000	70,000	.033000	.004000	.....	.....	
14,400	72,000	.037500	.004500	.....	.....	
14,800	74,000	.043000	.005500	.....	.....	
15,200	76,000	.048500	.005500	.....	.....	
15,600	78,000	.059000	.010500	.....	.....	
16,000	80,000	.0650	.0060	.....	.....	
16,400	82,000	.0850	.0200	.....	.....	
16,800	84,000	.1150	.0300	.....	.....	
16,880	84,400	.1500	.0350	.....	.....	Tensile strength.

General summary.

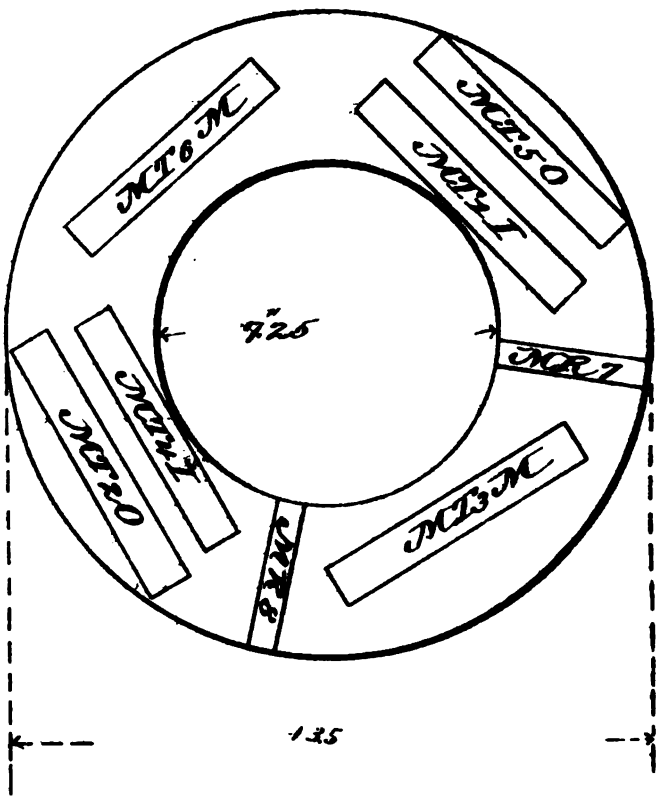
Tensile strength per square inch of original section	pounds..	84,400
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.2700
Elongation per inch under strain at elastic limit	do...	.001450
Reduction in diameter at point of rupture	do...	.185
Reduction in area after rupture, per centum of original section		59.8
Position of rupture		″.8 from neck
Character of broken surface		silky
Elongation of inch sections		″.41, ″.12



8" Steel B. L. Rifle No. 1.

Tube

Muzzle end



H Ex 31 49 2

No. 2332.

Marks, $\frac{S\ R_1\ T}{M\ T_1\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000500	.000233	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.001000	.000200	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
10,000	40,000	.001333	.000166	0.	.....	
11,250	45,000	.001467	.000134	0.	.....	
12,500	50,000	.001667	.000200	0.	.....	
12,750	51,000	.001700	.000033	.....	.....	
13,000	52,000	.001767	.000067	.....	.....	
13,250	53,000	.001800	.000233	.....	.....	
13,500	54,000	.001833	.000033	.....	.....	
13,750	55,000	.001867	.000034	.....	.....	
14,000	56,000	.001900	.000033	.....	.....	Elastic limit.
14,250	57,000	.002067	.000167	.....	.....	
14,500	58,000	.002300	.000033	.....	.....	
14,750	59,000	.002633	.000332	.....	.....	
15,000	60,000	.003233	.000600	.....	.....	
15,500	62,000	.005167	.001934	.....	.....	
16,000	64,000	.008167	.003000	.....	.....	
16,500	66,000	.010333	.002166	.....	.....	
17,000	68,000	.012833	.002500	.....	.....	
17,500	70,000	.014667	.001834	.....	.....	
18,000	72,000	.021500	.006833	.....	.....	
18,500	74,000	.022667	.001167	.....	.....	
19,000	76,000	.024000	.001333	.....	.....	
19,500	78,000	.025833	.001833	.....	.....	
20,000	80,000	.027833	.002000	.....	.....	
20,500	82,000	.030267	.002434	.....	.....	
21,000	84,000	.036000	.005733	.....	.....	
21,500	86,000	.039333	.003333	.....	.....	
23,000	84,000	.044167	.004834	.....	.....	
22,500	90,000	.0533	.009133	.....	.....	
23,000	92,000	.0600	.0067	.....	.....	
23,500	94,000	.0733	.0133	.....	.....	
23,980	95,920	.1200	.0467	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8561
Hardness	19.81
Tensile strength per square inch of original section, pounds	95,920
Elastic limit per square inch of original section, do	56,000
Elongation per inch after rupture, inch	0.1667
Elongation per inch under strain at elastic limit, do	.001900
Reduction in diameter at point of rupture, do	.094
Reduction in area after rupture, per centum of original section	30.6
Position of rupture	⅞ inch from neck
Character of broken surface	granular; dull flaky spot
Elongation of inch sections	".12, ".13, ".25*

No. 2333.

Marks, $\frac{S\ R_1\ T}{M\ T_1\ O}$
Diameter ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001100	.000200	0.	.....	
10,000	40,000	.001267	.000167	0.	.....	
11,250	45,000	.001467	.000200	.....	.....	
11,500	46,000	.001500	.000033	.....	.....	
11,750	47,000	.001533	.000033	.....	.....	
12,000	48,000	.001567	.000034	.....	.....	Elastic limit.
12,250	49,000	.002700	.001133	.....	.....	
12,500	50,000	.004133	.001433	.....	.....	
12,750	51,000	.004833	.000700	.....	.....	
13,000	52,000	.006033	.001200	.....	.....	
13,250	53,000	.006767	.000734	.....	.....	
13,500	54,000	.007800	.001033	.....	.....	
13,750	55,000	.008600	.000800	.....	.....	
14,000	56,000	.009667	.001067	.....	.....	
14,250	57,000	.010200	.000533	.....	.....	
14,500	58,000	.011200	.001000	.....	.....	
14,750	59,000	.012000	.000800	.....	.....	
15,000	60,000	.013167	.001167	.....	.....	
15,500	62,000	.015500	.002333	.....	.....	
16,000	64,000	.017667	.002167	.....	.....	
16,500	66,000	.019833	.002166	.....	.....	
17,000	68,000	.022333	.002500	.....	.....	
17,500	70,000	.025267	.002934	.....	.....	
18,000	72,000	.027833	.002566	.....	.....	
18,500	74,000	.031167	.003334	.....	.....	
19,000	76,000	.034667	.003500	.....	.....	
19,500	78,000	.038667	.004000	.....	.....	
20,000	80,000	.043667	.005000	.....	.....	
20,500	82,000	.0500	.006333	.....	.....	
21,000	84,000	.0600	.0100	.....	.....	
21,500	86,000	.0700	.0100	.....	.....	
22,000	88,000	.0800	.0100	.....	.....	
22,425	89,700	.1367	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,700
Elastic limit per square inch of original section	do ..	48,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do ..	.001567
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		".15 from middle of stem
Character of broken surface		silky; interspersed with granulation
Elongation of inch sections		".46", ".13," .17

No. 2334.

Marks, $\frac{S\ R;\ T}{M\ T;\ M}$
Diameter, $''.564$.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
10,000	40,000	.001367	.000200	.000033	.000033	
11,250	45,000	.001567	.000200	.....	.....	
11,500	46,000	.001600	.000033	.....	.....	
11,750	47,000	.001667	.000067	.....	.....	Elastic limit.
12,000	48,000	.002400	.000733	.....	.....	
12,250	49,000	.004000	.001600	.....	.....	
12,500	50,000	.005000	.001000	.....	.....	
12,750	51,000	.005700	.000700	.....	.....	
13,000	52,000	.006767	.001067	.....	.....	
13,250	53,000	.007600	.000833	.....	.....	
13,500	54,000	.008167	.000567	.....	.....	
13,750	55,000	.009033	.000866	.....	.....	
14,000	56,000	.010000	.000967	.....	.....	
14,250	57,000	.010667	.000667	.....	.....	
14,500	58,000	.011767	.001100	.....	.....	
14,750	59,000	.012667	.000900	.....	.....	
15,000	60,000	.013733	.001066	.....	.....	
15,500	62,000	.015667	.001934	.....	.....	
16,000	64,000	.018000	.002333	.....	.....	
16,500	66,000	.020000	.002000	.....	.....	
17,000	68,000	.022367	.002367	.....	.....	
17,500	70,000	.025267	.002900	.....	.....	
18,000	72,000	.027833	.002566	.....	.....	
18,500	74,000	.031000	.003167	.....	.....	
19,000	76,000	.034700	.003700	.....	.....	
19,500	78,000	.038667	.003967	.....	.....	
20,000	80,000	.043167	.004500	.....	.....	
20,500	82,000	.049000	.005833	.....	.....	
21,000	84,000	.056333	.007333	.....	.....	
21,500	86,000	.0633	.006967	.....	.....	
22,000	88,000	.0767	.0134	.....	.....	
22,500	90,000	.1000	.0233	.....	.....	
22,640	90,560	.1333	.0333	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,560
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do...	.001667
Reduction in diameter at point of rupture	do...	.084
Reduction in area after rupture, per centum of original section		27.6
Position of rupture		1".2 from neck
Character of broken surface	granular; dull flaky spot	
Elongation of inch sections		".12, ".25*, ".22

No. 639½.

Marks, $\frac{S\ R_1\ T}{M\ T_1\ I}$
Length, 5″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000233	.000133	0.	.....	
7,500	15,000	.000367	.000134	0.	.....	
10,000	20,000	.000533	.000166	0.	.....	
12,500	25,000	.000700	.000167	0.	.....	
15,000	30,000	.000867	.000167	0.	.....	
17,500	35,000	.001033	.000166	0.	.....	
20,000	40,000	.001200	.000167	0.	.....	
20,500	41,000	.001233	.000033	.....	.....	
21,000	42,000	.001267	.000034	.....	.....	
21,500	43,000	.001300	.000033	.....	.....	
22,000	44,000	.001333	.000033	.....	.....	
22,500	45,000	.001367	.000034	0.	.....	
23,000	46,000	.001400	.000033	.....	.....	
23,500	47,000	.001433	.000033	.....	.....	
24,000	48,000	.001467	.000034	.....	.....	
24,500	49,000	.001500	.000033	.....	.....	
25,000	50,000	.001533	.000033	.....	.....	
25,500	51,000	.001567	.000034	.....	.....	
26,000	52,000	.001633	.000066	.....	.....	
26,500	53,000	.001667	.000034	.....	.....	
27,000	54,000	.001700	.000033	.....	.....	
27,500	55,000	.001700	0.	.....	.....	
28,000	56,000	.001767	.000067	.....	.....	Elastic limit.
28,500	57,000	.001900	.000133	.....	.....	
29,000	58,000	.002167	.000267	.....	.....	
29,500	59,000	.002600	.000433	.....	.....	
30,000	60,000	.003400	.000800	.....	.....	
30,500	61,000	.004267	.000867	.....	.....	
31,000	62,000	.005300	.001033	.....	.....	
41,780	83,560	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	56,000
Compression per inch under stress at elastic limit	inch..	0.001767
Ultimate strength per square inch of original section	pounds..	83,560
Manner of failure		triple flexure

No. 640.

Marks, $\frac{S\ E.\ T}{M\ T.\ O}$
Length, 4".995.
Diameter, ".798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000233	.000133	0.	.....	
7,500	15,000	.000400	.000167	0.	.....	
10,000	20,000	.000567	.000167	0.	.....	
12,500	25,000	.000733	.000166	0.	.....	
15,000	30,000	.000933	.000200	0.	.....	
17,500	35,000	.001100	.000167	.000033	.000033	
20,000	40,000	.001300	.000200	.000067	.000034	
22,500	45,000	.001467	.000167	.000067	0.	
25,000	50,000	.001667	.000200	.000100	.000033	
25,500	51,000	.001700	.000033	.....	.....	
26,000	52,000	.001767	.000067	.....	.....	Elastic limit.
26,500	53,000	.002300	.000533	.....	.....	
27,000	54,000	.004200	.001900	.....	.....	
27,500	55,000	.005667	.001467	.....	.....	
28,000	56,000	.006700	.001033	.....	.....	
43,650	87,300	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	52.000
Compression per inch under stress at elastic limit	inch..	0.001767
Ultimate strength per square inch of original section	pounds..	87.300
Manner of failure		triple flexure

No. 641.

Marks, $\frac{S\ R_1\ T}{M\ T_2\ M}$
Length, 5".001.
Diameter, ".798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000067	.000067	0.	.....	
5,000	10,000	.000200	.000133	0.	.....	
7,500	15,000	.000300	.000100	0.	.....	
10,000	20,000	.000500	.000200	0.	.....	
12,500	25,000	.000667	.000167	0.	.....	
15,000	30,000	.000833	.000166	0.	.....	
17,500	35,000	.001000	.000167	0.	.....	
20,000	40,000	.001167	.000167	0.	.....	
22,500	45,000	.001367	.000200	0.	.....	
25,000	50,000	.001600	.000233	.000033	.000033	
25,500	51,000	.001633	.000033	.....	.....	Elastic limit.
26,000	52,000	.001533	—.000100	.....	.....	
26,500	53,000	.001500	—.000033	.....	.....	
27,000	54,000	.001733	.000233	.....	.....	
27,500	55,000	.002200	.000467	.....	.....	
28,000	56,000	.002933	.000733	.....	.....	
28,500	57,000	.003700	.000767	.....	.....	
29,000	58,000	.004533	.000833	.....	.....	
41,900	83,800	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	51,000
Compression per inch under stress at elastic limit	inch..	0.001633
Ultimate strength per square inch of original section	pounds..	83,800
Manner of failure		triple flexure

No. 644.

Marks, $\frac{S\ R,\ T}{M\ R,}$
Length, 3″.075.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000700	.000150	0.	.....	
15,000	30,000	.000850	.000150	0.	.....	
17,500	35,000	.001050	.000200	0.	.....	
20,000	40,000	.001250	.000200	0.	.....	
22,500	45,000	.001450	.000200	0.	.....	
25,000	50,000	.001650	.000200	0.	.....	
25,500	51,000	.001700	.000050	.....	.....	Elastic limit.
26,000	52,000	.002500	.000800	.....	.....	
26,500	53,000	.003400	.000900	.....	.....	
27,000	54,000	.004400	.001000	.....	.....	
27,500	55,000	.005250	.000850	.....	.....	
28,000	56,000	.006000	.000750	.....	.....	
50,000	100,000	.....	.....	.....	.....	Test discontinued.

General summary.

Elastic limit per square inch of original section	pounds..	51,000
Compression per inch under stress at elastic limit	inch..	0.001700
Manner of failure	specimen permanently shortened to 2″.92	

No. 645.

Marks, $\frac{S\ R_1\ T}{M\ R_2}$
Length, 3″.070.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000250	.000150	0.	.....	
7,500	15,000	.000400	.000150	0.	.....	
10,000	20,000	.000550	.000150	0.	.....	
12,500	25,000	.000750	.000200	0.	.....	
15,000	30,000	.000950	.000200	0.	.....	
17,500	35,000	.001150	.000200	0.	.....	
20,000	40,000	.001350	.000200	0.	.....	
22,500	45,000	.001500	.000150	0.	.....	
23,000	46,000	.001550	.000050	.....	.....	
23,500	47,000	.001550	0.	.....	.....	
24,000	48,000	.001600	.000050	.....	.....	
24,500	49,000	.001700	.000100	.....	.....	Elastic limit.
25,000	50,000	.002000	.000300	.....	.....	
25,500	51,000	.003100	.001100	.....	.....	
26,000	52,000	.004000	.000900	.....	.....	
26,500	53,000	.005000	.001000	.....	.....	
27,000	54,000	.006200	.001200	.....	.....	
27,500	55,000	.007100	.000900	.....	.....	
28,000	56,000	.007950	.000850	.....	.....	
50,000	100,000	.....	.....	.....	.....	Test discontinued.

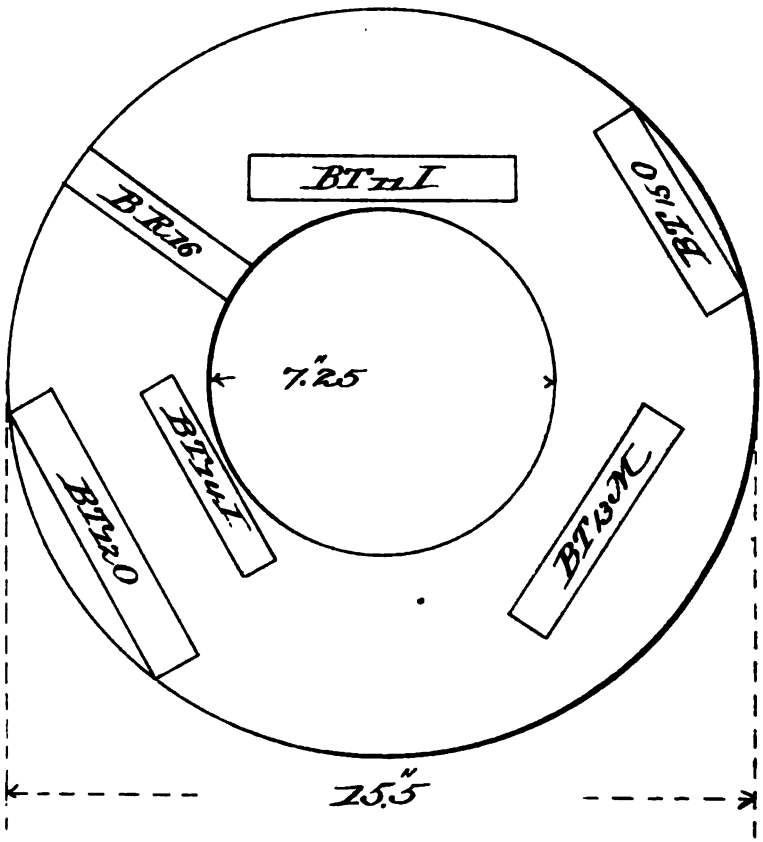
General summary.

Elastic limit per square inch of original section	pounds..	49,000
Compression per inch under stress at elastic limit	inch..	0.001700
Manner of failure	specimen permanently shortened to 2″.99	

8" Steel B.L. Rifle No. 1.

Tube

Breech end



H Ex 31 49 2

[Specimens from second slice of tube after retreatment.]

No. 2564.

Marks, $\frac{S\ R\ T}{B\ T_{11}\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000600	.000200	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000967	.000200	0.	.....	
8,750	35,000	.001100	.000133	.....	.....	
10,000	40,000	.001267	.000167	.....	.....	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	
11,000	44,000	.001467	.000067	.....	.....	
11,250	45,000	.001533	.000066	.....	.....	
11,500	46,000	.001567	.000034	.....	.....	
11,750	47,000	.001600	.000033	.....	.....	
12,000	48,000	.001633	.000033	.....	.....	
12,250	49,000	.001700	.000067	.....	.....	Elastic limit.
12,500	50,000	.002067	.000367	.....	.....	
12,750	51,000	.002833	.000766	.....	.....	
13,000	52,000	.003867	.001034	.....	.....	
13,250	53,000	.004833	.000966	.....	.....	
13,500	54,000	.006367	.001534	.....	.....	
13,750	55,000	.007367	.001000	.....	.....	
14,000	56,000	.009000	.001633	.....	.....	
14,250	57,000	.010067	.001067	.....	.....	
14,500	58,000	.011167	.001100	.....	.....	
14,750	59,000	.012333	.001166	.....	.....	
15,000	60,000	.013433	.001100	.....	.....	
15,500	62,000	.015500	.002067	.....	.....	
16,000	64,000	.018333	.002833	.....	.....	
16,500	66,000	.021167	.002834	.....	.....	
17,000	68,000	.024000	.002833	.....	.....	
17,500	70,000	.027067	.003067	.....	.....	
18,000	72,000	.031000	.003933	.....	.....	
18,500	74,000	.035000	.004000	.....	.....	
19,000	76,000	.0367	.0017	.....	.....	
19,500	78,000	.0433	.0066	.....	.....	
20,000	80,000	.0567	.0134	.....	.....	
20,500	82,000	.0667	.0100	.....	.....	
21,000	84,000	.0783	.0066	.....	.....	
21,500	86,000	.0900	.0167	.....	.....	
21,710	86,840	.1333	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,840
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″.75 from neck
Character of broken surface		silky
Elongation of inch sections		″.18, ″.40, ″.12

No. 2565.

Marks, $\frac{8\ R_1\ T}{B\ T_{12}\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.		
2,500	10,000	.000300	.000200	0.		
3,750	15,000	.000467	.000167	0.		
5,000	20,000	.000633	.000166	0.		
6,250	25,000	.000800	.000167	0.		
7,500	30,000	.000967	.000167	0.		
8,750	35,000	.001100	.000133			
10,000	40,000	.001333	.000233			
10,250	41,000	.001333	0.			
10,500	42,000	.001367	.000034			
10,750	43,000	.001400	.000033			
11,000	44,000	.001433	.000033			
11,250	45,000	.001500	.000067			
11,500	46,000	.001533	.000033			
11,750	47,000	.001567	.000034			
12,000	48,000	.001633	.000066			
12,250	49,000	.001667	.000034			
12,500	50,000	.001700	.000033			
12,750	51,000	.001767	.000067			Elastic limit.
13,000	52,000	.002567	.000800			
13,250	53,000	.003500	.000933			
13,500	54,000	.004733	.001233			
13,750	55,000	.006200	.001467			
14,000	56,000	.007167	.000967			
14,250	57,000	.008100	.000933			
14,500	58,000	.009167	.001067			
14,750	59,000	.010167	.001000			
15,000	60,000	.011167	.001000			
15,500	62,000	.013233	.002066			
16,000	64,000	.015667	.002434			
16,500	66,000	.018000	.002333			
17,000	68,000	.020167	.002167			
17,500	70,000	.023100	.002933			
18,000	72,000	.025667	.002567			
18,500	74,000	.029000	.003333			
19,000	76,000	.032333	.003333			
19,500	78,000	.035733	.003400			
20,000	80,000	.0400	.004267			
20,500	82,000	.0467	.0067			
21,000	84,000	.0567	.0100			
21,500	86,000	.0633	.0066			
22,000	88,000	.0733	.0100			
22,500	90,000	.0967	.0234			
22,600	90,400	.1267	.0300			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	90,400
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001767
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		1".30 from neck
Character of broken surface		silky
Elongation of inch sections		".09, ".31", ".20

No. 2566.

Marks, $\frac{S\,R_1\,T}{B\,T_{12}\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
10,000	40,000	.001267	.000167	.....	.....	
11,250	45,000	.001433	.000166	.....	.....	
11,500	46,000	.001467	.000034	.....	.....	Elastic limit.
11,750	47,000	.001600	.000133	.....	.....	
12,000	48,000	.003267	.001667	.....	.....	
12,250	49,000	.004500	.001233	.....	.....	
12,500	50,000	.005400	.000900	.....	.....	
12,750	51,000	.006467	.001067	.....	.....	
13,000	52,000	.007633	.001166	.....	.....	
13,250	53,000	.008467	.000834	.....	.....	
13,500	54,000	.009667	.001200	.....	.....	
13,750	55,000	.010567	.000900	.....	.....	
14,000	56,000	.011600	.001033	.....	.....	
14,250	57,000	.012667	.001067	.....	.....	
14,500	58,000	.013667	.001000	.....	.....	
14,750	59,000	.014533	.000866	.....	.....	
15,000	60,000	.015800	.001267	.....	.....	
15,500	62,000	.018667	.002867	.....	.....	
16,000	64,000	.021000	.002333	.....	.....	
16,500	66,000	.023833	.002833	.....	.....	
17,000	68,000	.026667	.002834	.....	.....	
17,500	70,000	.030000	.003333	.....	.....	
18,000	72,000	.033733	.003733	.....	.....	
18,500	74,000	.0367	.002967	.....	.....	
19,000	76,000	.0400	.0033	.....	.....	
19,500	78,000	.0467	.0067	.....	.....	
20,000	80,000	.0567	.0100	.....	.....	
20,500	82,000	.0667	.0100	.....	.....	
21,000	84,000	.0767	.0100	.....	.....	
21,500	86,000	.1067	.0300	.....	.....	
21,550	86,200	.1367	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,200
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diamster at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		1″.50 from neck
Character of broken surface		silky
Elongation of inch sections		″.15, ″.36*, ″.12

No. 662.

Marks, $\frac{S\ R_1\ T}{B\ T_{1/4}\ I}$
Length, 4″.494.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.		
5,000	10,000	.000267	.000167	0.		
7,500	15,000	.000433	.000166	0.		
10,000	20,000	.000600	.000167	0.		
12,500	25,000	.000767	.000167	0.		
15,000	30,000	.000933	.000166	0.		
17,500	35,000	.001100	.000167	.000033	.000033	
20,000	40,000	.001300	.000200			
20,500	41,000	.001333	.000033			
21,000	42,000	.001400	.000067			
21,500	43,000	.001433	.000033			
22,000	44,000	.001467	.000034			
22,500	45,000	.001500	.000033			
23,000	46,000	.001533	.000033			
23,500	47,000	.001567	.000034			
24,000	48,000	.001667	.000100			
24,500	49,000	.001700	.000033			Elastic limit.
25,000	50,000	.002333	.000633			
25,500	51,000	.003400	.001067			
26,000	52,000	.004633	.001233			
26,500	53,000	.005233	.000600			
27,000	54,000	.006333	.001100			
42,880	85,760					Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	49,000
Compression per inch under stress at elastic limit	inch..	0.00170
Ultimate strength per square inch of original section	pounds..	85,760
Manner of failure		triple flexure

No. 663.

Marks, $\frac{8\,R_1\,T}{B\,T_{15}\,O}$
Length, 4″.503.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000300	.000167	0.	.....	
7,500	15,000	.000467	.000167	0.	.....	
10,000	20,000	.000633	.000166	0.	.....	
12,500	25,000	.000800	.000167	0.	.....	
15,000	30,000	.001000	.000200	0.	.....	
17,500	35,000	.001200	.000200	.000033	.000033	
20,000	40,000	.001367	.000167	.....	.....	
20,500	41,000	.001400	.000033	.....	.....	
21,000	42,000	.001433	.000033	.....	.....	
21,500	43,000	.001467	.000034	.....	.....	
22,000	44,000	.001500	.000033	.....	.....	
22,500	45,000	.001533	.000033	.....	.....	
23,000	46,000	.001600	.000067	.....	.....	
23,500	47,000	.001633	.000033	.....	.....	
24,000	48,000	.001667	.000034	.....	.....	
24,500	49,000	.001700	.000033	.....	.....	
25,000	50,000	.001767	.000067	.....	.....	Elastic limit.
25,500	51,000	.002500	.000733	.....	.....	
26,000	52,000	.003267	.000767	.....	.....	
26,500	53,000	.003900	.000633	.....	.....	
27,000	54,000	.004667	.000767	.....	.....	
46,700	93,400	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	50,000
Compression per inch under stress at elastic limit	inch..	0.001767
Ultimate strength per square inch of original section	pounds..	93,400
Manner of failure		triple flexure

No. 664.

Marks, $\frac{8\,R_1\,T}{B\,R_{16}}$
Length, 4″.004.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000150	.000150	0.	.....	
5,000	10,000	.000400	.000250	0.	.....	
7,500	15,000	.000600	.000200	0.	.....	
10,000	20,000	.000700	.000100	0.	.....	
12,500	25,000	.000850	.000150	0.	.....	
15,000	30,000	.001050	.000200	0.	.....	
17,500	35,000	.001200	.000150	0.	.....	
20,000	40,000	.001350	.000150	.....	.....	
20,500	41,000	.001400	.000050	.....	.....	
21,000	42,000	.001400	0.	.....	.....	
21,500	43,000	.001450	.000050	.....	.....	
22,000	44,000	.001500	.000050	.....	.....	
22,500	45,000	.001550	.000050	.....	.....	
23,000	46,000	.001650	.000100	.....	.....	
23,500	47,000	.001700	.000050	.....	.....	Elastic limit.
24,000	48,000	.001850	.000150	.....	.....	
24,500	49,000	.003000	.001150	.....	.....	
25,000	50,000	.004000	.001000	.....	.....	
25,500	51,000	.004900	.000900	.....	.....	
26,000	52,000	.005750	.000850	.....	.....	
48,520	97,040	.....	.....	.....	.....	Ultimate strength.

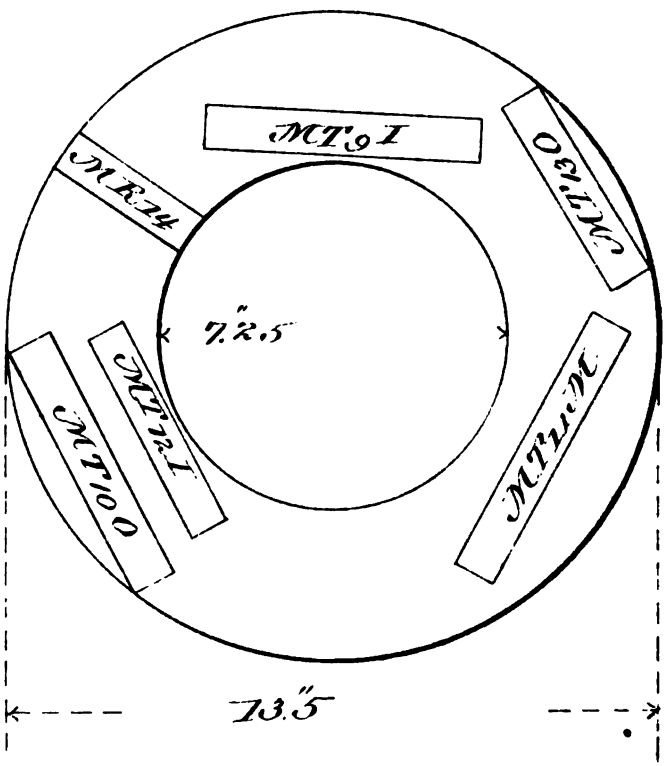
General summary.

Elastic limit per square inch of original section	pounds..	47,000
Compression per inch under stress at elastic limit	inch..	0.001700
Ultimate strength per square inch of original section	pounds..	97,040
Manner of failure		triple flexure

8" Steel B.L. Rifle No.1.

Tube

Muzzle end



H Ex 31 49 2

[Specimens from second slice of tube after retreatment.]

No. 2567.

Marks, $\frac{S\ R_1\ T}{M\ T_2\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	—.000033	—.000033	
6,250	25,000	.000700	.000133	—.000033	0.	
7,500	30,000	.000833	.000133	—.000033	0.	
8,750	35,000	.000967	.000134	.....	.....	
10,000	40,000	.001133	.000166	.....	.....	
11,250	45,000	.001300	.000167	.....	.....	
11,500	46,000	.001367	.000067	.....	.....	
11,750	47,000	.001400	.000033	.....	.....	
12,000	48,000	.001433	.000033	.....	.....	
12,250	49,000	.001467	.000034	.....	.....	
12,500	50,000	.001500	.000033	.....	.....	
12,750	51,000	.001567	.000067	.....	.....	
13,000	52,000	.001633	.000066	.....	.....	
13,250	53,000	.001733	.000100	.....	.....	Elastic limit.
13,500	54,000	.001933	.000200	.....	.....	
13,750	55,000	.002233	.000300	.....	.....	
14,000	56,000	.003067	.000834	.....	.....	
14,250	57,000	.004100	.001033	.....	.....	
14,500	58,000	.005467	.001367	.....	.....	
14,750	59,000	.006500	.001033	.....	.....	
15,000	60,000	.007700	.001200	.....	.....	
15,500	62,000	.009567	.001867	.....	.....	
16,000	64,000	.011333	.001766	.....	.....	
16,500	66,000	.013267	.001934	.....	.....	
17,000	68,000	.015667	.002400	.....	.....	
17,500	70,000	.018000	.002333	.....	.....	
18,000	72,000	.020433	.002433	.....	.....	
18,500	74,000	.022700	.002267	.....	.....	
19,000	76,000	.025367	.002667	.....	.....	
19,500	78,000	.028400	.003033	.....	.....	
20,000	80,000	.031333	.002933	.....	.....	
20,500	82,000	.035333	.004000	.....	.....	
21,000	84,000	.0400	.004667	.....	.....	
21,500	86,000	.0433	.0033	.....	.....	
22,000	88,000	.0533	.0100	.....	.....	
22,500	90,000	.0633	.0100	.....	.....	
23,000	92,000	.0733	.0100	.....	.....	
23,500	94,000	.1000	.0267	.....	.....	
23,580	94,320	.1333	.0333	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,320
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.001783
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		1″.55 from neck
Character of broken surface		granular; flaky spot at circumference
Elongation of inch sections		″.14, ″.22[4], ″.15

No. 2568.

Marks, $\overset{S\ R_1\ T}{M\ T_{10}\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001167	.000200	.....	.....	
10,000	40,000	.001267	.000100	.....	.....	
11,250	45,000	.001467	.000200	.....	.....	
11,500	46,000	.001500	.000033	.....	.....	
11,750	47,000	.001533	.000033	.....	.....	
12,000	48,000	.001567	.000034	.....	.....	
12,250	49,000	.001600	.000033	.....	.....	
12,500	50,000	.001667	.000067	.....	.....	
12,750	51,000	.001733	.000066	.....	.....	
13,000	52,000	.001800	.000067	.....	.....	Elastic limit.
13,250	53,000	.002100	.000300	.....	.....	
13,500	54,000	.002833	.000733	.....	.....	
13,750	55,000	.003500	.000667	.....	.....	
14,000	56,000	.004767	.001267	.....	.....	
14,250	57,000	.005767	.001000	.....	.....	
14,500	58,000	.006933	.001166	.....	.....	
14,750	59,000	.007767	.000834	.....	.....	
15,000	60,000	.008800	.001033	.....	.....	
15,500	62,000	.010667	.001867	.....	.....	
16,000	64,000	.013000	.002333	.....	.....	
16,500	66,000	.014933	.001933	.....	.....	
17,000	68,000	.017000	.002067	.....	.....	
17,500	70,000	.018833	.001833	.....	.....	
18,000	72,000	.021333	.002500	.....	.....	
18,500	74,000	.024000	.002667	.....	.....	
19,000	76,000	.026667	.002667	.....	.....	
19,500	78,000	.029667	.003000	.....	.....	
20,000	80,000	.034000	.004333	.....	.....	
20,500	82,000	.0400	.0060	.....	.....	
21,000	84,000	.0433	.0033	.....	.....	
21,500	86,000	.0467	.0034	.....	.....	
22,000	88,000	.0567	.0100	.....	.....	
22,500	90,000	.0633	.0066	.....	.....	
23,000	92,000	.0767	.0134	.....	.....	
23,500	94,000	.1100	.0333	.....	.....	
23,520	94,080	.1333	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	94,080
Elastic limit per square inch of original section	do...	52,000
Elongation per inch after rupture	inch..	0.1867
Elongation per inch under strain at elastic limit	do...	.001800
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1 inch from neck
Character of broken surface		silky; trace of granulation
Elongation of inch sections		".10, ".15, ".34"

No. 2569.

Marks, $\frac{8}{M}\frac{R_1}{T_{11}}\frac{T}{M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000833	.000200	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001133	.000133	.....	.....	
10,000	40,000	.001333	.000200	.....	.....	
11,250	45,000	.001467	.000134	.....	.....	
11,500	46,000	.001533	.000066	.....	.....	
11,750	47,000	.001567	.000034	.....	.....	
12,000	48,000	.001633	.000066	.....	.....	
12,250	49,000	.001667	.000034	.....	.....	
12,500	50,000	.001733	.000066	.....	.....	Elastic limit.
12,750	51,000	.002833	.001100	.....	.....	
13,000	52,000	.004700	.001867	.....	.....	
13,250	53,000	.005667	.000967	.....	.....	
13,500	54,000	.006467	.000800	.....	.....	
13,750	55,000	.007333	.000866	.....	.....	
14,000	56,000	.008233	.000900	.....	.....	
14,250	57,000	.009000	.000767	.....	.....	
14,500	58,000	.010167	.001167	.....	.....	
14,750	59,000	.010833	.000666	.....	.....	
15,000	60,000	.012033	.001200	.....	.....	
15,500	62,000	.013333	.001300	.....	.....	
16,000	64,000	.016500	.003167	.....	.....	
16,500	66,000	.018033	.001533	.....	.....	
17,000	68,000	.020000	.001967	.....	.....	
17,500	70,000	.023333	.003333	.....	.....	
18,000	72,000	.026333	.003000	.....	.....	
18,500	74,000	.029500	.003167	.....	.....	
19,000	76,000	.032500	.003000	.....	.....	
19,500	78,000	.035667	.003167	.....	.....	
20,000	80,000	.0400	.004333	.....	.....	
20,500	82,000	.0433	.0033	.....	.....	
21,000	84,000	.0533	.0100	.....	.....	
21,500	86,000	.0633	.0100	.....	.....	
22,000	88,000	.0700	.0067	.....	.....	
22,500	90,000	.0867	.0167	.....	.....	
22,900	91,600	.1400	.0533	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,600
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.2133
Elongation per inch under strain at elastic limit	do...	.001733
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		1″.55 from neck
Character of broken surface		silky
Elongation of inch sections		″.11, ″.35, ″.1

No. 665.

Marks, $\frac{S\ R_1\ T}{M\ T_1,\ I}$
Length, 4″.506.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000167	.000167	0.	.....	
5,000	10,000	.000300	.000133	0.	.....	
7,500	15,000	.000500	.000200	0.	.....	
10,000	20,000	.000667	.000167	0.	.....	
12,500	25,000	.000833	.000166	0.	.....	
15,000	30,000	.001000	.000167	0.	.....	
17,500	35,000	.001167	.000167	0.	.....	
20,000	40,000	.001333	.000166	0.	.....	
22,500	45,000	.001500	.000167	.....	.....	
25,000	50,000	.001667	.000167	.....	.....	
25,500	51,000	.001700	.000033	.....	.....	
26,000	52,000	.001733	.000033	.....	.....	
26,500	53,000	.001767	.000034	.....	.....	
27,000	54,000	.001800	.000033	.....	.....	
27,500	55,000	.001833	.000033	.....	.....	
28,000	56,000	.001867	.000034	.....	.....	
28,500	57,000	.001900	.000033	.....	.....	Elastic limit.
29,000	58,000	.001900	0.	.....	.....	
29,500	59,000	.001767	— .000133	.....	.....	
30,000	60,000	.001867	.000100	.....	.....	
30,500	61,000	.002567	.000700	.....	.....	
31,000	62,000	.003633	.001066	.....	.....	
47,300	94,600	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	57,000
Compression per inch under stress at elastic limit	inch..	0.001900
Ultimate strength per square inch of original section	pounds..	94,600
Manner of failure		triple flexure

No. 666.

Marks, $\overset{S\ R_1\ T}{M\ T_{11}\ O}$
Length, 4″.506.
Diameter, ″.799.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000167	.000167	0.	.....	
5,000	10,000	.000333	.000166	0.	.....	
7,500	15,000	.000500	.000167	0.	.....	
10,000	20,000	.000667	.000167	0.	.....	
12,500	25,000	.000833	.000166	0.	.....	
15,000	30,000	.001000	.000167	0.	.....	
17,500	35,000	.001167	.000167	0.	.....	
20,000	40,000	.001333	.000166	0.	.....	
22,500	45,000	.001500	.000167	0.	.....	
25,000	50,000	.001667	.000167	0.	.....	
25,500	51,000	.001667	0.	.....	.....	
26,000	52,000	.001700	.000033	.....	.....	
26,500	53,000	.001733	.000033	.....	.....	Elastic limit.
27,000	54,000	.002667	.000934	.....	.....	
27,500	55,000	.003467	.000800	.....	.....	
28,000	56,000	.004533	.001066	.....	.....	
45,680	91,360	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	53,000
Compression per inch under stress at elastic limit	inch..	0.001733
Ultimate strength per square inch of original section	pounds..	91,360
Manner of failure		triple flexure

No. 667.

Marks, $\frac{8\,R_1\,T}{M\,R_{14}}$
Length, 3″.088.
Diameter, ″.709.
Sectional area, .395 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
395	1,000	0.	0.	0.	0.	Initial load.
1,975	5,000	.000200	.000200	0.	.....	
3,950	10,000	.000450	.000250	0.	.....	
5,925	15,000	.000650	.000200	0.	.....	
7,900	20,000	.000800	.000150	0.	.....	
9,875	25,000	.001000	.000200	0.	.....	
11,850	30,000	.001150	.000150	0.	.....	
13,825	35,000	.001300	.000150	0.	.....	
15,800	40,000	.001500	.000200	.000100	.000100	
17,775	45,000	.001650	.000150	.....	.....	
19,750	50,000	.001850	.000200	.....	.....	
20,145	51,000	.001900	.000050	.....	.....	
20,540	52,000	.001950	.000050	.....	.....	
20,935	53,000	.002050	.000100	.....	.....	Elastic limit.
21,330	54,000	.002600	.000550	.....	.....	
21,725	55,000	.003900	.001300	.....	.....	
22,120	56,000	.005000	.001100	.....	.....	
44,300	112,250	.....	.....	.....	.....	Ultimate strength.

General summary.

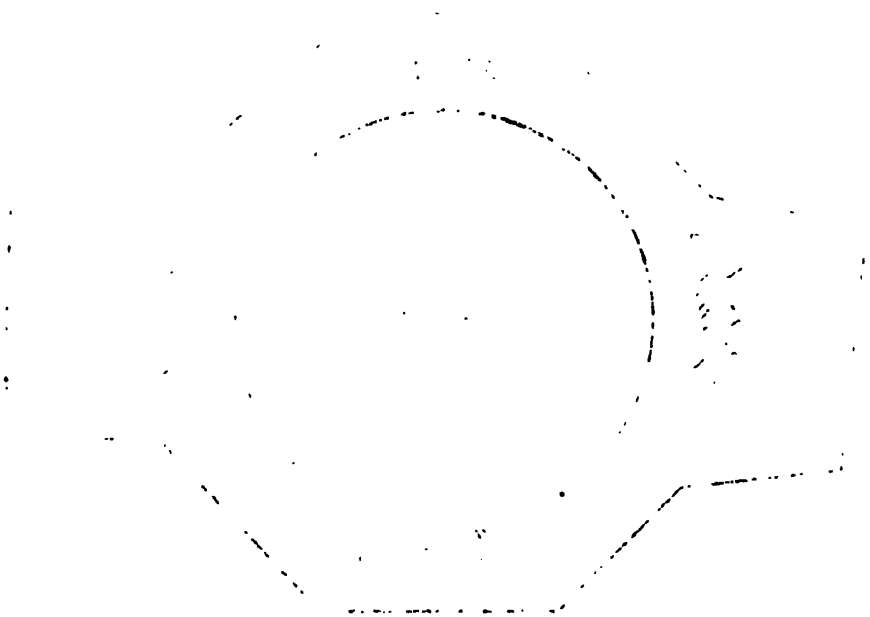
Elastic limit per square inch of original section	pounds..	53,000
Compression per inch under stress at elastic limit	inch..	0.002050
Ultimate strength per square inch of original section	pounds..	112,250
Manner of failure		triple flexure

STEEL SPECIMENS FROM TRUNNION HOOP

FOR

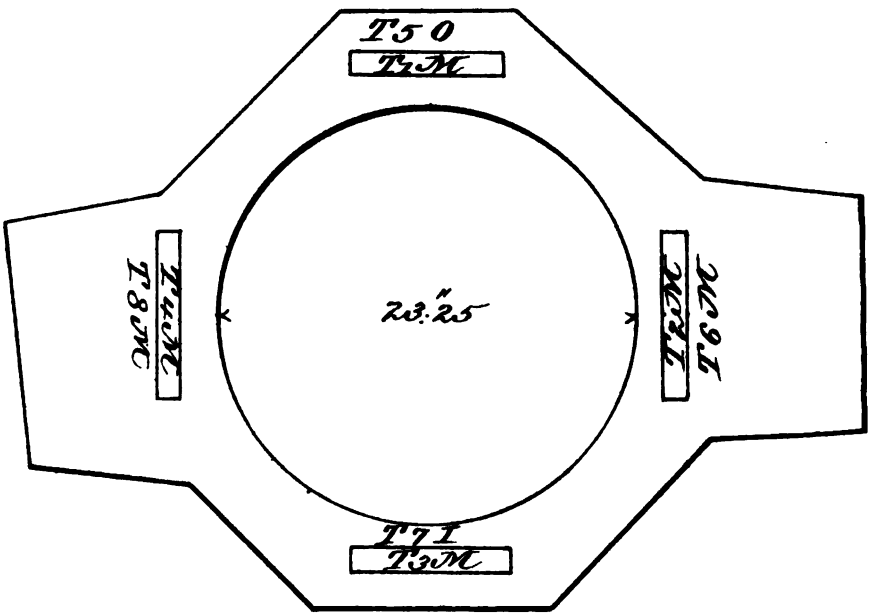
8-INCH STEEL B. L. RIFLE NO 1.

587



8" Steel B.L. Rifle No. 1

Trunnion Hoop



H Ex 31 492

STEEL SPECIMENS FROM TRUNNION HOOP FOR 8-INCH STEEL B. L. RIFLE NO. 1.

No. 2408.

Marks, $^{8\ R_1\ T\ H}_{T_1\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000617	.000150	0.	.....	
6,250	25,000	.000750	.000133	0.	.....	
7,500	30,000	.000917	.000167	0.	.....	
8,750	35,000	.001067	.000150	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	
11,250	45,000	.001383	.000150	.....	.....	
12,500	50,000	.001567	.000184	.....	.....	
12,750	51,000	.001583	.000016	.....	.....	
13,000	52,000	.001617	.000034	.....	.....	
13,250	53,000	.001667	.000050	.....	.....	
13,500	54,000	.001700	.000033	.....	.....	Elastic limit.
13,750	55,000	.001783	.000083	.....	.....	
14,000	56,000	.001933	.000150	.....	.....	
14,250	57,000	.002133	.000200	.....	.....	
14,500	58,000	.003117	.000984	.....	.....	
14,750	59,000	.004017	.000900	.....	.....	
15,000	60,000	.004850	.000833	.....	.....	
15,500	62,000	.006350	.001500	.....	.....	
16,000	64,000	.007750	.001400	.....	.....	
16,500	66,000	.009133	.001383	.....	.....	
17,000	68,000	.010667	.001534	.....	.....	
17,500	70,000	.012250	.001583	.....	.....	
18,000	72,000	.013833	.001583	.....	.....	
18,500	74,000	.015333	.001500	.....	.....	
19,000	76,000	.017083	.001750	.....	.....	
19,500	78,000	.018967	.001884	.....	.....	
20,000	80,000	.020967	.002000	.....	.....	
20,500	82,000	.022750	.001783	.....	.....	
21,000	84,000	.024833	.002083	.....	.....	
21,500	86,000	.027083	.002250	.....	.....	
22,000	88,000	.0300	.002917	.....	.....	
22,500	90,000	.0333	.0033	.....	.....	
23,000	92,000	.0350	.0017	.....	.....	
23,500	94,000	.0383	.0033	.....	.....	
24,000	96,000	.0433	.0050	.....	.....	
24,500	98,000	.0483	.0050	.....	.....	
25,000	100,000	.0533	.0050	.....	.....	
25,500	102,000	.0633	.0100	.....	.....	
26,000	104,000	.0767	.0134	.....	.....	
26,410	105,640	.1133	.0366	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	105,640
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1467
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		1".53 from neck
Character of broken surface		silky; interspersed with granular metal
Elongation of inch sections		".14, ".35*, ".14, ".10, ".08, ".07

No. 2409.

Marks, $\frac{S\ R_1\ T\ H}{T_2\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000150	.000150	0.	.....	
2,500	10,000	.000333	.000183	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000633	.000133	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001117	.000150	.....	.....	
10,000	40,000	.001283	.000166	.....	.....	
11,250	45,000	.001450	.000167	.....	.....	
11,500	46,000	.001517	.000067	.....	.....	
11,750	47,000	.001550	.000033	.....	.....	
12,000	48,000	.001567	.000017	.....	.....	
12,250	49,000	.001600	.000033	.....	.....	
12,500	50,000	.001617	.000017	.....	.....	
12,750	51,000	.001633	.000016	.....	.....	
13,000	52,000	.001683	.000050	.....	.....	
13,250	53,000	.001717	.000034	.....	.....	
13,500	54,000	.001750	.000033	.....	.....	Elastic limit.
13,750	55,000	.001833	.000083	.....	.....	
14,000	56,000	.001967	.000134	.....	.....	
14,250	57,000	.002250	.000283	.....	.....	
14,500	58,000	.003333	.001083	.....	.....	
14,750	59,000	.003917	.000584	.....	.....	
15,000	60,000	.004767	.000850	.....	.....	
15,500	62,000	.006250	.001483	.....	.....	
16,000	64,000	.007583	.001333	.....	.....	
16,500	66,000	.009150	.001567	.....	.....	
17,000	68,000	.010833	.001683	.....	.....	
17,500	70,000	.012167	.001334	.....	.....	
18,000	72,000	.013667	.001500	.....	.....	
18,500	74,000	.015517	.001850	.....	.....	
19,000	76,000	.017000	.001483	.....	.....	
19,500	78,000	.018667	.001667	.....	.....	
20,000	80,000	.020667	.002000	.....	.....	
20,500	82,000	.022750	.002083	.....	.....	
21,000	84,000	.024917	.002167	.....	.....	
21,500	86,000	.0267	.001783	.....	.....	
22,000	88,000	.0300	.0033	.....	.....	
22,500	90,000	.0333	.0033	.....	.....	
23,000	92,000	.0350	.0017	.....	.....	
23,500	94,000	.0367	.0017	.....	.....	
24,000	96,000	.0417	.0050	.....	.....	
24,500	98,000	.0467	.0050	.....	.....	
25,000	100,000	.0517	.0050	.....	.....	
25,500	102,000	.0633	.0116	.....	.....	
26,000	104,000	.0783	.0150	.....	.....	
26,280	105,120	.0983	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	105,120
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1283
Elongation per inch under strain at elastic limit	do...	.001750
Reduction in diameter at point of rupture	do...	.104
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		2".15 from neck
Character of broken surface		silky, 50 per centum; granular, 50 per centum
Elongation of inch sections		".11, ".26", ".19, ".09, ".06, ".06

No. 2410

Marks, $\frac{8\,R_1\,T\,H}{T_2\,M}$.
Diameter, ".564.
Sectional area, .25 square inch

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000117	.000117	0.		
2,500	10,000	.000283	.000166	0.		
3,750	15,000	.000450	.000167	0.		
5,000	20,000	.000600	.000150	0.		
6,250	25,000	.000767	.000167	0.		
7,500	30,000	.000933	.000166	0.		
8,750	35,000	.001100	.000167			
10,000	40,000	.001233	.000133			
11,250	45,000	.001400	.000167			
12,500	50,000	.001567	.000167			
12,750	51,000	.001600	.000033			
13,000	52,000	.001650	.000050			
13,250	53,000	.001683	.000033			
13,500	54,000	.001717	.000034			
13,750	55,000	.001750	.000033			
14,000	56,000	.001783	.000033			
14,250	57,000	.001833	.000050			
14,500	58,000	.001867	.000034			
14,750	59,000	.001917	.000050			
15,000	60,000	.001967	.000050			Elastic limit.
15,250	61,000	.002050	.000083			
15,500	62,000	.002567	.000517			
15,750	63,000	.003417	.000850			
16,000	64,000	.004500	.001083			
16,250	65,000	.005167	.000667			
16,500	66,000	.005783	.000616			
16,750	67,000	.006500	.000717			
17,000	68,000	.007333	.000833			
17,250	69,000	.008167	.000834			
17,500	70,000	.008833	.000666			
18,000	72,000	.010333	.001500			
18,500	74,000	.011717	.001384			
19,000	76,000	.013267	.001550			
19,500	78,000	.015083	.001816			
20,000	80,000	.016750	.001667			
20,500	82,000	.018583	.001833			
21,000	84,000	.020367	.001784			
21,500	86,000	.022333	.001966			
22,000	88,000	.024417	.002084			
22,500	90,000	.026833	.002416			
23,000	92,000	.029167	.002334			
23,500	94,000	.0300	.000833			
24,000	96,000	.0333	.0033			
24,500	98,000	.0367	.0034			
25,000	100,000	.0400	.0033			
25,500	102,000	.0467	.0067			
26,000	104,000	.0533	.0066			
26,500	106,000	.0617	.0084			
27,000	108,000	.0700	.0083			
27,500	110,000	.1017	.0317			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	110,000
Elastic limit per square inch of original section	do...	60,000
Elongation per inch after rupture	inch..	0.1367
Elongation per inch under strain at elastic limit	do...	.001967
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		½ inch from middle of stem
Character of broken surface		silky; interspersed with fine granulation
Elongation of inch sections		".08, ".11, ".12, ".30*, ".12, ".09

No. 2411.

Marks, $\frac{8\ R,\ T\ H}{T_4\ M}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000450	.000150	0.	.....	
5,000	20,000	.000617	.000167	0.	.....	
6,250	25,000	.000767	.000150	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
10,000	40,000	.001233	.000133	.....	.....	
11,250	45,000	.001367	.000134	.....	.....	
12,500	50,000	.001550	.000183	.....	.....	
12,750	51,000	.001583	.000033	.....	.....	
13,000	52,000	.001617	.000034	.....	.....	
13,250	53,000	.001650	.000033	.....	.....	
13,500	54,000	.001683	.000033	.....	.....	
13,750	55,000	.001700	.000017	.....	.....	
14,000	56,000	.001733	.000033	.....	.....	
14,250	57,000	.001783	.000050	.....	.....	
14,500	58,000	.001867	.000084	.....	.....	
14,750	59,000	.001900	.000033	.....	.....	
15,000	60,000	.001950	.000050	.....	.....	Elastic limit.
15,250	61,000	.002033	.000083	.....	.....	
15,500	62,000	.002233	.000200	.....	.....	
15,750	63,000	.002733	.000500	.....	.....	
16,000	64,000	.003783	.001050	.....	.....	
16,250	65,000	.004500	.000717	.....	.....	
16,500	66,000	.005417	.000917	.....	.....	
16,750	67,000	.006183	.000766	.....	.....	
17,000	68,000	.007167	.000984	.....	.....	
17,250	69,000	.008000	.000833	.....	.....	
17,500	70,000	.008833	.000833	.....	.....	
18,000	72,000	.010200	.001367	.....	.....	
18,500	74,000	.011583	.001383	.....	.....	
19,000	76,000	.013167	.001584	.....	.....	
19,500	78,000	.014717	.001550	.....	.....	
20,000	80,000	.016417	.001700	.....	.....	
20,500	82,000	.018300	.001883	.....	.....	
21,000	84,000	.020083	.001783	.....	.....	
21,500	86,000	.022167	.002084	.....	.....	
22,000	88,000	.024333	.002166	.....	.....	
22,500	90,000	.026500	.002167	.....	.....	
23,000	92,000	.028833	.002333	.....	.....	
23,500	94,000	.031250	.002417	.....	.....	
24,000	96,000	.032500	.001250	.....	.....	
24,500	98,000	.0367	.0042	.....	.....	
25,000	100,000	.0400	.0033	.....	.....	
25,500	102,000	.0467	.0067	.....	.....	
26,000	104,000	.0517	.0050	.....	.....	
26,500	106,000	.0583	.0066	.....	.....	
27,000	108,000	.0700	.0117	.....	.....	
27,500	110,000	.0960	.0250	.....	.....	
27,520	110,080	.1050	.0100	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	110,080
Elastic limit per square inch of original section	do...	60,000
Elongation per inch after rupture	inch..	0.1417
Elongation per inch under strain at elastic limit	do...	.001950
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		30.2
Position of rupture		1".55 from neck
Character of broken surface		silky; traces of granulation
Elongation of inch sections		".13, ".30, ".14, ".11, ".10, ".07

No. 2412.

Marks, $\frac{S\ E\ T\ H}{T\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000117	.000117	0.	.....	
2,500	10,000	.000283	.000166	0.	.....	
3,750	15,000	.000450	.000167	0.	.....	
5,000	20,000	.000617	.000167	0.	.....	
6,250	25,000	.000767	.000150	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001083	.000150	.....	.....	
10,000	40,000	.001233	.000150	.....	.....	
11,250	45,000	.001400	.000167	.....	.....	
12,500	50,000	.001583	.000183	.....	.....	
12,750	51,000	.001633	.000050	.....	.....	
13,000	52,000	.001683	.000050	.....	.....	
13,250	53,000	.001717	.000034	.....	.....	
13,500	54,000	.001750	.000033	.....	.....	
13,750	55,000	.001767	.000017	.....	.....	
14,000	56,000	.001833	.000066	.....	.....	Elastic limit.
14,250	57,000	.001933	.000100	.....	.....	
14,500	58,000	.002217	.000284	.....	.....	
14,750	59,000	.002700	.000483	.....	.....	
15,000	60,000	.003667	.000967	.....	.....	
15,500	62,000	.005200	.001583	.....	.....	
16,000	64,000	.006667	.001467	.....	.....	
16,500	66,000	.008250	.001583	.....	.....	
17,000	68,000	.009833	.001583	.....	.....	
17,500	70,000	.011333	.001500	.....	.....	
18,000	72,000	.013000	.001667	.....	.....	
18,500	74,000	.014833	.001833	.....	.....	
19,000	76,000	.016667	.001834	.....	.....	
19,500	78,000	.018083	.001416	.....	.....	
20,000	80,000	.020033	.001950	.....	.....	
20,500	82,000	.022050	.002017	.....	.....	
21,000	84,000	.024200	.002150	.....	.....	
21,500	86,000	.026567	.002367	.....	.....	
22,000	88,000	.029167	.002600	.....	.....	
22,500	90,000	.030833	.001666	.....	.....	
23,000	92,000	.0350	.004167	.....	.....	
23,500	94,000	.0367	.0017	.....	.....	
24,000	96,000	.0417	.0050	.....	.....	
24,500	98,000	.0467	.0050	.....	.....	
25,000	100,000	.0517	.0050	.....	.....	
25,500	102,000	.0600	.0083	.....	.....	
26,000	104,000	.0717	.0117	.....	.....	
26,480	105,920	.1100	.0383	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	105,920
Elastic limit per square inch of original section	do...	56,000
Elongation per inch after rupture	inch..	0.1517
Elongation per inch under strain at elastic limit	do...	.001833
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		⅞ inch from middle of stem
Character of broken surface		silky; interspersed with granular metal
Elongation of inch sections		".13, ".10, ".11, ".30", ".14, ".13

No. 2413.

Marks, $\frac{8\,R_1\,T\,H}{T_6\,M}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000117	.000117	0.	.....	
2,500	10,000	.000283	.000166	0.	.....	
3,750	15,000	.000433	.000150	0.	.....	
5,000	20,000	.000567	.000134	—.000017	—.000017	
6,250	25,000	.000733	.000166	—.000017	0.	
7,500	30,000	.000900	.000167	—.000017	0.	
8,750	35,000	.001033	.000133	—.000017	0.	
10,000	40,000	.001217	.000184	—.000017	0.	
11,250	45,000	.001400	.000183	.....	.....	
12,500	50,000	.001567	.000167	.....	.....	
12,750	51,000	.001583	.000016	.....	.....	
13,000	52,000	.001633	.000050	.....	.....	
13,250	53,000	.001717	.000084	.....	.....	
13,500	54,000	.001783	.000066	.....	.....	Elastic limit.
13,750	55,000	.001933	.000150	.....	.....	
14,000	56,000	.002517	.000584	.....	.....	
14,250	57,000	.003333	.000816	.....	.....	
14,500	58,000	.004083	.000750	.....	.....	
14,750	59,000	.005000	.000917	.....	.....	
15,000	60,000	.005833	.000833	.....	.....	
15,500	62,000	.007167	.001334	.....	.....	
16,000	64,000	.008400	.001233	.....	.....	
16,500	66,000	.009750	.001350	.....	.....	
17,000	68,000	.011333	.001583	.....	.....	
17,500	70,000	.012833	.001500	.....	.....	
18,000	72,000	.014900	.002067	.....	.....	
18,500	74,000	.016500	.001600	.....	.....	
19,000	76,000	.018167	.001667	.....	.....	
19,500	78,000	.019767	.001600	.....	.....	
20,000	80,000	.021667	.001900	.....	.....	
20,500	82,000	.023833	.002166	.....	.....	
21,000	84,000	.026117	.002284	.....	.....	
21,500	86,000	.028550	.002433	.....	.....	
22,000	88,000	.031500	.002950	.....	.....	
22,500	90,000	.0333	.0018	.....	.....	
23,000	92,000	.0367	.0034	.....	.....	
23,500	94,000	.0400	.0033	.....	.....	
24,000	96,000	.0450	.0050	.....	.....	
24,500	98,000	.0500	.0050	.....	.....	
25,000	100,000	.0583	.0083	.....	.....	
25,500	102,000	.0667	.0084	.....	.....	
26,000	104,000	.0817	.0150	.....	.....	
26,300	105,200	.1133	.0216	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	105,200
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.1283
Elongation per inch under strain at elastic limit	do...	.001783
Reduction in diameter at point of rupture	do...	.075
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		″.85 from neck
Character of broken surface	granular; radiating from a point in the circumference	
Elongation of inch sections		″.08, ″.10, ″.10, ″.12, ″.15, ″.22

No. 2414.

Marks, $\frac{S\ R_1\ T\ H}{T,\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000117	.000117	0.	.....	
2,500	10,000	.000283	.000166	0.	.....	
3,750	15,000	.000450	.000167	0.	.....	
5,000	20,000	.000600	.000150	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001083	.000150	0.	.....	
10,000	40,000	.001250	.000167	0.	.....	
11,250	45,000	.001400	.000150	.....	.....	
12,500	50,000	.001600	.000200	.....	.....	
13,750	55,000	.001783	.000183	.....	.....	
15,000	60,000	.001967	.000184	.....	.....	
15,250	61,000	.002017	.000050	.....	.....	
15,500	62,000	.002050	.000033	.....	.....	
15,750	63,000	.002083	.000033	.....	.....	
16,000	64,000	.002117	.000034	.....	.....	
16,250	65,000	.002167	.000050	.....	.....	
16,500	66,000	.002233	.000066	.....	.....	Elastic limit.
16,750	67,000	.002333	.000100	.....	.....	
17,000	68,000	.002500	.000167	.....	.....	
17,250	69,000	.002717	.000217	.....	.....	
17,500	70,000	.003250	.000533	.....	.....	
18,000	72,000	.005000	.001750	.....	.....	
18,500	74,000	.007167	.002167	.....	.....	
19,000	76,000	.009117	.001950	.....	.....	
19,500	78,000	.011083	.001966	.....	.....	
20,000	80,000	.012767	.001684	.....	.....	
20,500	82,000	.014517	.001750	.....	.....	
21,000	84,000	.016083	.001566	.....	.....	
21,500	86,000	.017833	.001750	.....	.....	
22,000	88,000	.019833	.002000	.....	.....	
22,500	90,000	.021917	.002084	.....	.....	
23,500	94,000	.024250	.002333	.....	.....	
24,000	96,000	.026500	.002250	.....	.....	
24,500	98,000	.029333	.002833	.....	.....	
25,000	100,000	.032000	.002667	.....	.....	
25,500	102,000	.0350	.0030	.....	.....	
26,000	104,000	.0367	.0017	.....	.....	
26,500	106,000	.0417	.0050	.....	.....	
27,000	108,000	.0483	.0066	.....	.....	
27,500	110,000	.0583	.0100	.....	.....	
28,000	112,000	.0833	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	112,000
Elastic limit per square inch of original section	do...	66,000
Elongation per inch after rupture	inch..	0.1300
Elongation per inch under strain at elastic limit	do...	.002233
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		".80 from neck
Character of broken surface		silky; interspersed with fine granulation
Elongation of inch sections		".09, ".10, ".09, ".09, ".11, ".30*

No. 2415.

Marks, $\frac{8\,R_1\,T\,H}{T_2\,M}$
Diameter, ".565.
Sectional area, .25 square inch.

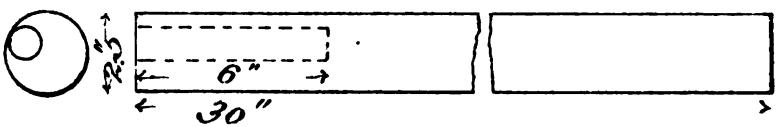
Applied loads.		Elongation per inch	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001300	.000167	0.	.....	
11,250	45,000	.001467	.000167	.....	.....	
12,500	50,000	.001650	.000183	.....	.....	
12,750	51,000	.001700	.000050	.....	.....	
13,000	52,000	.001717	.000017	.....	.....	
13,250	53,000	.001750	.000033	.....	.....	
13,500	54,000	.001850	.000100	.....	.....	
13,750	55,000	.001883	.000033	.....	.....	Elastic limit.
14,000	56,000	.001967	.000084	.....	.....	
14,250	57,000	.002100	.000133	.....	.....	
14,500	58,000	.002517	.000417	.....	.....	
14,750	59,000	.003083	.000566	.....	.....	
15,000	60,000	.003833	.000750	.....	.....	
15,500	62,000	.005200	.001367	.....	.....	
16,000	64,000	.006500	.001300	.....	.....	
16,500	66,000	.007883	.001383	.....	.....	
17,000	68,000	.009417	.001534	.....	.....	
17,500	70,000	.011167	.001750	.....	.....	
18,000	72,000	.012663	.001466	.....	.....	
18,500	74,000	.014000	.001367	.....	.....	
19,000	76,000	.015667	.001667	.....	.....	
19,500	78,000	.017333	.001666	.....	.....	
20,000	80,000	.019000	.001667	.....	.....	
20,500	82,000	.021000	.002000	.....	.....	
21,000	84,000	.023267	.002267	.....	.....	
21,500	86,000	.025500	.002233	.....	.....	
22,000	88,000	.027683	.002183	.....	.....	
22,500	90,000	.030583	.002900	.....	.....	
23,000	92,000	.0317	.001117	.....	.....	
23,500	94,000	.0350	.0033	.....	.....	
24,000	96,000	.0367	.0017	.....	.....	
24,500	98,000	.0433	.0066	.....	.....	
25,000	100,000	.0483	.0050	.....	.....	
25,500	102,000	.0533	.0050	.....	.....	
26,000	104,000	.0617	.0084	.....	.....	
26,500	106,000	.0750	.0133	.....	.....	
26,950	107.800	.1150	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	107,800
Elastic limit per square inch of original section	do...	55,000
Elongation per inch after rupture	inch..	0.1283
Elongation per inch under strain at elastic limit	do...	.001883
Reduction in diameter at point of rupture	do...	.055
Reduction in area after rupture, per centum of original section		18.3
Position of rupture		".30 from middle of stem
Character of broken surface		granular; dull eccentric spot
Elongation of inch sections		".09, ".12, ".15, ".19, ".12, ".09

8" Steel B. L. Rifle No. 1

Coupling pin



H Ex 31 492

No. 2707.

Marks, $\frac{8\text{ in}}{C\ P}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000110	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000533	.000133	0.	.....	
6,250	25,000	.000733	.000200	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	
11,250	45,000	.001367	.000134	.....	.....	
11,500	46,000	.001400	.000033	.....	.....	
11,750	47,000	.001467	.000067	.....	.....	
12,000	48,000	.001500	.000033	.....	.....	
12,250	49,000	.001533	.000033	.....	.....	
12,500	50,000	.001600	.000067	.....	.....	
12,750	51,000	.001633	.000033	.....	.....	
13,000	52,000	.001667	.000034	.....	.....	
13,250	53,000	.001700	.000033	.....	.....	
13,500	54,000	.001700	0.	.....	.....	
13,750	55,000	.001733	.000033	.....	.....	
14,000	56,000	.001767	.000034	.....	.....	
14,250	57,000	.001867	.000100	.....	.....	
14,500	58,000	.001967	.000100	.....	.....	
14,750	59,000	.002000	.000033	.....	.....	
15,000	60,000	.002033	.000033	.....	.....	
15,250	61,000	.002067	.000034	.....	.....	
15,500	62,000	.002067	0.	.....	.....	
15,750	63,000	.002100	.000033	.....	.....	
16,000	64,000	.002133	.000033	.....	.....	
16,250	65,000	.002167	.000034	.....	.....	
16,500	66,000	.002167	0.	.....	.....	
16,750	67,000	.002233	.000066	.....	.....	
17,000	68,000	.002333	.000100	.....	.....	
17,250	69,000	.002367	.000034	.....	.....	
17,500	70,000	.002400	.000033	.....	.....	Elastic limit.
17,750	71,000	.002567	.000167	.....	.....	
18,000	72,000	.002733	.000166	.....	.....	
18,250	73,000	.002933	.000200	.....	.....	
18,500	74,000	.003333	.000400	.....	.....	
18,750	75,000	.003800	.000467	.....	.....	
19,000	76,000	.004233	.000433	.....	.....	
19,500	78,000	.005767	.001534	.....	.....	
20,000	80,000	.006833	.001066	.....	.....	
20,500	82,000	.008367	.001534	.....	.....	
21,000	84,000	.010000	.001633	.....	.....	
21,500	86,000	.011167	.001167	.....	.....	
22,000	88,000	.012667	.001500	.....	.....	
22,500	90,000	.013900	.001233	.....	.....	
23,000	92,000	.0150	.0011	.....	.....	
23,500	94,000	.0167	.0017	.....	.....	
25,000	100,000	.0217	.0050	.....	.....	
26,000	104,000	.0267	.0050	.....	.....	
27,000	108,000	.0300	.0033	.....	.....	
28,000	112,000	.0333	.0033	.....	.....	
29,000	116,000	.0400	.0067	.....	.....	
30,000	120,000	.0567	.0167	.....	.....	
31,050	124,200	.0967	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	124,200
Elastic limit per square inch of original section	do...	70,800
Elongation per inch after rupture	inch...	0.1133
Elongation per inch under strain at elastic limit	do...	.002400
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		".90 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".06, ".13, ".15*

TABULATION OF TENSION SPECIMENS FROM TUBE FOR 8-INCH STEEL B. L. RIFLE NO. 1.

No. of test.	Position in gun.	Location of specimen.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.	Hardness.
			Pounds.	*Pounds.*	*Per. ct.*	*Per. ct.*			
2335	Breech	Inside	40,000	79,760	22.7	47.2	Silky		
2336	do	Outside	44,000	83,440	22.7	49.7	Silky; trace of granulation.		
2337	do	Middle	43,000	83,400	23.0	49.7	Silky; slightly granular.		
2338	do	Outside	49,000	89,500	26.5	54.6	Silky		
2339	do	Inside	46,000	84,400	27.0	59.8	do		
2332	Muzzle	do	56,000	95,920	16.7	30.6	Granular; dull flaky spot.	7.8561	19.81
2333	do	Outside	48,000	89,700	23.3	47.2	Silky; interspersed with granulation.		
2334	do	Middle	47,000	90,560	19.0	27.6	Granular; dull flaky spot.		
*2564	Breech	Inside	49,000	88,840	23.3	49.7	Silky		
*2565	do	Outside	51,000	90,400	20.0	52.2	do		
*2566	do	Middle	46,000	86,200	21.0	52.2	do		
*2567	Muzzle	Inside	53,000	94,320	17.0	21.4	Granular; flaky spot.		
*2568	do	Outside	52,000	94,080	19.7	54.6	Silky; trace of granulation.		
*2569	do	Middle	50,000	91,600	21.3	41.9	Silky		

* Second slice after retreatment.

TABULATION OF COMPRESSION SPECIMENS FROM TUBE FOR 8-INCH STEEL B. L. RIFLE NO. 1.

No. of test.	Position in gun.	Location of specimens.	Elastic limit per square inch.	Ultimate strength per square inch.	Manner of failure.
			Pounds.	*Pounds.*	
638	Breech	Inside	39,000	70,360	Triple flexure.
637	do	Outside	47,000	81,300	Do.
639	do	Middle	40,000	72,840	Do.
642	do	Radial	44,000	93,700	Do.
643	do	do	42,000	89,880	Do.
639½	Muzzle	Inside	58,000	83,560	Do.
640	do	Outside	52,000	87,300	Do.
641	do	Middle	51,000	83,800	Do.
644	do	Radial	51,000	.....	Shortened ".155.
645	do	do	49,000	.....	Shortened ".170.
*662	Breech	Inside	49,000	85,760	Triple flexure.
*663	do	Outside	50,000	93,400	Do.
*664	do	Radial	47,000	97,040	Do.
*665	Muzzle	Inside	57,000	94,600	Do.
*666	do	Outside	53,000	91,360	Do.
*667	do	Radial	53,000	112,250	Do.

* Second slice after retreatment.

TABULATION OF TENSION SPECIMENS FROM TRUNNION-HOOP AND COUPLING-PIN FOR 8-INCH STEEL B. L. RIFLE NO. 1.

No. of test.	Position in gun.	Location of specimens.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.
			Pounds.	*Pounds.*	*Per. ct.*	*Per. ct.*	
2408	T. hoop	Middle	54, 000	105, 640	14. 7	41. 9	Silky, with granular metal.
2409	do	do	54, 000	105, 120	12. 8	33. 5	Silky, 50 per cent.; granular 50 per cent.
2410	do	do	60, 000	110, 000	13. 7	41. 9	Silky, with fine granulation.
2411	do	do	60, 000	110, 080	14. 2	39. 2	Silky; traces of granulation.
2412	do	Outside	56, 000	105, 920	15. 2	39. 2	Silky, with granular metal.
2413	do	Middle	54, 000	105, 200	12. 8	24. 6	Granular.
2414	do	Inside	66, 000	112, 000	13. 0	44. 6	Silky, with fine granulation.
2415	do	Middle	55, 000	107, 800	12. 8	18. 3	Granular; dull spot.
2707	Coupling-pin	End	70, 000	124, 200	11, 3	21. 4	Do.

SPECIMENS FROM STEEL TUBES

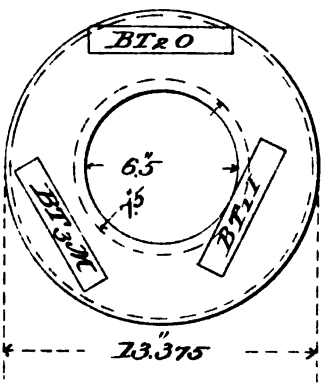
FOR

8-INCH CONVERTED RIFLES.

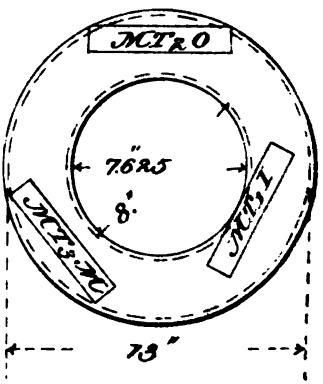
Tube 8" converted Rifle

General drawing showing positions from whence specimens were taken.

Breech end



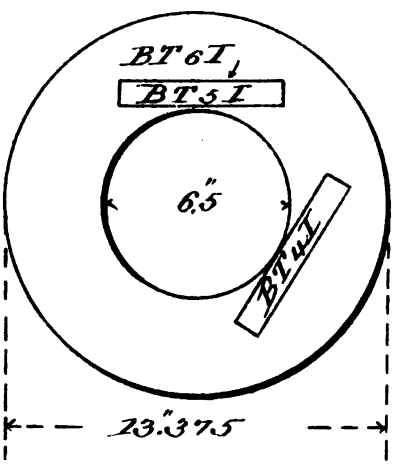
Muzzle end

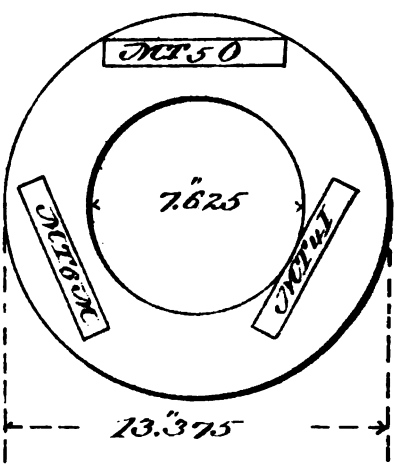


H Ex 31 49 2

Tube No. 7 8" converted Rifle

Additional specimens





H Ex 31 492

SPECIMENS FROM STEEL TUBES FOR 8-INCH CONVERTED RIFLES.

No. 2341.

Marks, $\frac{8\ T_7}{B\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	Elastic limit.
9,500	38,000	.009000	.007833	.....	.....	
9,750	39,000	.011700	.002700	.....	.....	
10,000	40,000	.012667	.000967	.....	.....	
10,250	41,000	.013833	.001166	.....	.....	
10,500	42,000	.015167	.001334	.....	.....	
10,750	43,000	.016333	.001166	.....	.....	
11,000	44,000	.017667	.001334	.....	.....	
11,250	45,000	.018833	.001166	.....	.....	
11,500	46,000	.020400	.001567	.....	.....	
11,750	47,000	.021500	.001100	.....	.....	
12,000	48,000	.023733	.002233	.....	.....	
12,250	49,000	.025333	.001600	.....	.....	
12,500	50,000	.027067	.001734	.....	.....	
13,000	52,000	.030500	.003433	.....	.....	
13,500	54,000	.034667	.004167	.....	.....	
14,000	56,000	.039000	.004333	.....	.....	
14,500	58,000	.044667	.005667	.....	.....	
15,000	60,000	.050833	.006166	.....	.....	
15,500	62,000	.058333	.007500	.....	.....	
16,000	64,000	.0667	.008367	.....	.....	
16,500	66,000	.0767	.0100	.....	.....	
17,000	68,000	.0933	.0166	.....	.....	
17,500	70,000	.1300	.0367	.....	.....	
17,680	70,720	.1700	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	70,720
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4

Position of rupture ..... 1".45 from neck
Character of broken surface, granular; radiating from a defective spot at circumference; opened cracks in surface of stem.
Elongation of inch sections ..... ".16, ".23*, ".15

No. 2342.

Marks, $\frac{8\ T,}{B\ T.\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
7,750	31,000	.001033	.000033	.....	.....	
8,000	32,000	.001067	.000034	.....	.....	
8,250	33,000	.001100	.000033	.....	.....	
8,500	34,000	.001167	.000067	.....	.....	Elastic limit.
8,750	35,000	.008167	.007000	.....	.....	
9,000	36,000	.009333	.001166	.....	.....	
9,250	37,000	.010400	.001067	.....	.....	
9,500	38,000	.011333	.000933	.....	.....	
9,750	39,000	.012167	.000834	.....	.....	
10,000	40,000	.013667	.001500	.....	.....	
10,500	42,000	.015667	.002000	.....	.....	
11,000	44,000	.018333	.002666	.....	.....	
11,500	46,000	.021167	.002834	.....	.....	
12,000	48,000	.024033	.002866	.....	.....	
12,500	50,000	.027367	.003334	.....	.....	
13,000	52,000	.031100	.003733	.....	.....	
13,500	54,000	.035400	.004300	.....	.....	
14,000	56,000	.039667	.004267	.....	.....	
14,500	58,000	.044767	.005100	.....	.....	
15,000	60,000	.050700	.005933	.....	.....	
15,500	62,000	.0567	.0060	.....	.....	
16,000	64,000	.0667	.0100	.....	.....	
16,500	66,000	.0800	.0133	.....	.....	
17,000	68,000	.0967	.0167	.....	.....	
17,480	69,920	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	69,920
Elastic limit per square inch of original section	do...	34,000
Elongation per inch after rupture	inch..	0.1333
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.054
Reduction in area after rupture, per centum of original section		18.3
Position of rupture		½ inch from neck
Character of broken surface, granular; defective spot near circumference; opened cracks in surface of stem.		
Elongation of inch sections		″.11, ″.12, ″.16

No. 2343.

Marks, $\frac{8\ T_7}{B\ T_6\ 1}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000633	.000133	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001100	.000133	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	Elastic limit.
9,500	38,000	.010167	.009000	.....	.....	
9,750	39,000	.011033	.000866	.....	.....	
10,000	40,000	.012067	.001034	.....	.....	
10,500	42,000	.014700	.002633	.....	.....	
11,000	44,000	.017400	.002700	.....	.....	
11,500	46,000	.020000	.002600	.....	.....	
12,000	48,000	.023333	.003333	.....	.....	
12,500	50,000	.026500	.003167	.....	.....	
13,000	52,000	.030000	.003500	.....	.....	
13,500	54,000	.034000	.004000	.....	.....	
14,000	56,000	.038333	.004333	.....	.....	
14,500	58,000	.0433	.004967	.....	.....	
15,000	60,000	.0533	.0100	.....	.....	
15,500	62,000	.0600	.0067	.....	.....	
16,000	64,000	.0733	.0133	.....	.....	
16,500	66,000	.0867	.0134	.....	.....	
17,000	68,000	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	68,000
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.1067
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.044
Reduction in area after rupture, per centum of original section		15.0
Position of rupture		1″.3 from neck
Character of broken surface, granular; defective spot at circumference; opened crack in surface of stem.		
Elongation of inch sections		″.09*, ″.13*, ″.10

No. 2344.

Marks, $\frac{8\ T_7}{M\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000567	.000134	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	.000033	.000033	
8,750	35,000	.001067	.000167	.000033	0.	
10,000	40,000	.001233	.000166	.000033	0.	
10,250	41,000	.001267	.000034	.....	.....	Elastic limit.
10,500	42,000	.011700	.010433	.....	.....	
10,750	43,000	.012167	.000467	.....	.....	
11,000	44,000	.013167	.001000	.....	.....	
11,250	45,000	.014000	.000833	.....	.....	
11,500	46,000	.015033	.001033	.....	.....	
11,750	47,000	.016000	.000967	.....	.....	
12,000	48,000	.017367	.001367	.....	.....	
12,250	49,000	.018167	.000800	.....	.....	
12,500	50,000	.019333	.001166	.....	.....	
13,000	52,000	.022033	.002700	.....	.....	
13,500	54,000	.025000	.002967	.....	.....	
14,000	56,000	.027667	.002667	.....	.....	
14,500	58,000	.030733	.003066	.....	.....	
15,000	60,000	.034167	.003434	.....	.....	
15,500	62,000	.038100	.003933	.....	.....	
16,000	64,000	.042667	.004567	.....	.....	
16,500	66,000	.048000	.005333	.....	.....	
17,000	68,000	.053333	.005333	.....	.....	
17,500	70,000	.0600	.006667	.....	.....	
18,000	72,000	.0667	.0067	.....	.....	
18,500	74,000	.0800	.0133	.....	.....	
19,000	76,000	.1000	.0200	.....	.....	
19,500	78,000	.1233	.0233	.....	.....	
19,720	78,880	.1900	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,880
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.00126
Reduction in diameter at point of rupture	do...	.144
Reduction of area after rupture, per centum of original section		44.6
Position of rupture		".90 from neck
Character of broken surface		silky
Elongation of inch sections		".40", ".20, ".18

No. 2346.

Marks, $\frac{8\ T_7}{M\ T_5\ O}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001100	.000133	0.	.....	
9,500	38,000	.001233	.000133	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	Elastic limit.
10,000	40,000	.010000	.008700	.....	.....	
10,250	41,000	.010733	.000733	.....	.....	
10,500	42,000	.011800	.001067	.....	.....	
10,750	43,000	.012700	.000900	.....	.....	
11,000	44,000	.013600	.000900	.....	.....	
11,250	45,000	.014500	.000900	.....	.....	
11,500	46,000	.015733	.001233	.....	.....	
11,750	47,000	.016767	.001034	.....	.....	
12,000	48,000	.018000	.001233	.....	.....	
12,250	49,000	.019000	.001000	.....	.....	
12,500	50,000	.020400	.001400	.....	.....	
13,000	52,000	.023167	.002767	.....	.....	
13,500	54,000	.026333	.003166	.....	.....	
14,000	56,000	.029500	.003167	.....	.....	
14,500	58,000	.033333	.003833	.....	.....	
15,000	60,000	.037167	.003834	.....	.....	
15,500	62,000	.041433	.004266	.....	.....	
16,000	64,000	.047000	.005567	.....	.....	
16,500	66,000	.053333	.006333	.....	.....	
17,000	68,000	.060000	.006667	.....	.....	
17,500	70,000	.070000	.010000	.....	.....	
18,000	72,000	.0833	.0133	.....	.....	
18,500	74,000	.1000	.0167	.....	.....	
19,000	76,000	.1367	.0367	.....	.....	
19,110	76,440	.1733	.0366	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,440
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2700
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″.55 from neck
Character of broken surface		silky
Elongation of inch sections		″.16, ″.42* ″.23

No. 2345.

Marks, $\frac{8\,T_7}{M\,T_6\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000300	.000133	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	Elastic limit.
9,500	38,000	.005333	.004166	.....	.....	
9,750	39,000	.008067	.002734	.....	.....	
10,000	40,000	.009167	.001100	.....	.....	
10,500	42,000	.011000	.001833	.....	.....	
11,000	44,000	.012833	.001833	.....	.....	
11,500	46,000	.014833	.002000	.....	.....	
12,000	48,000	.017000	.002167	.....	.....	
12,500	50,000	.019000	.002000	.....	.....	
13,000	52,000	.021500	.002500	.....	.....	
13,500	54,000	.024000	.002500	.....	.....	
14,000	56,000	.026833	.002833	.....	.....	
14,500	58,000	.030000	.003167	.....	.....	
15,000	60,000	.033500	.003500	.....	.....	
15,500	62,000	.037667	.004167	.....	.....	
16,000	64,000	.041667	.004000	.....	.....	
16,500	66,000	.046833	.005166	.....	.....	
17,000	68,000	.052667	.005834	.....	.....	
17,500	70,000	.059333	.006666	.....	.....	
18,000	72,000	.0667	.007367	.....	.....	
18,500	74,000	.0767	.0100	.....	.....	
19,000	76,000	.0933	.0166	.....	.....	
19,500	78,000	.1200	.0267	.....	.....	
19,790	79,160	.1667	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,160
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2367
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		″.85 from neck
Character of broken surface		silky
Elongation of inch sections		″.36*, ″.21, ″.14

NEW TUBE NO. 7.

No. 2662.

Marks, $^{8\ Cu\ R_7\ T}_{B\ T_7\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000467	.000200	0.	.....	
5,000	20,000	.000567	.000100	0.	.....	
6,250	25,000	.000767	.000200	0.	.....	
7,500	30,000	.000900	.000133	0.	.....	
7,750	31,000	.000933	.000033	.....	.....	
8,000	32,000	.001000	.000067	.....	.....	
8,250	33,000	.001100	.000100	.....	.....	Elastic limit.
8,500	34,000	.001167	.000067	.....	.....	
		.004333	.003166	.....	.....	
8,750	35,000	.004867	.000534	.....	.....	
9,000	36,000	.005667	.000800	.....	.....	
9,250	37,000	.006333	.000666	.....	.....	
9,500	38,000	.007500	.001167	.....	.....	
9,750	39,000	.008500	.001000	.....	.....	
10,000	40,000	.009667	.001167	.....	.....	
10,250	41,000	.010667	.001000	.....	.....	
10,500	42,000	.011833	.001166	.....	.....	
10,750	43,000	.013000	.001167	.....	.....	
11,000	44,000	.014500	.001500	.....	.....	
11,250	45,000	.015667	.001167	.....	.....	
11,500	46,000	.017000	.001333	.....	.....	
11,750	47,000	.018333	.001333	.....	.....	
12,000	48,000	.020000	.001667	.....	.....	
12,250	49,000	.021333	.001333	.....	.....	
12,500	50,000	.023333	.002000	.....	.....	
13,000	52,000	.027000	.003667	.....	.....	
13,500	54,000	.031000	.004000	.....	.....	
14,000	56,000	.035667	.004667	.....	.....	
14,500	58,000	.040667	.005000	.....	.....	
15,000	60,000	.0500	.009333	.....	.....	
15,500	62,000	.0600	.0100	.....	.....	
16,000	64,000	.0700	.0100	.....	.....	
16,500	66,000	.0800	.0100	.....	.....	
17,000	68,000	.1033	.0233	.....	.....	
17,500	70,000	.1567	.0534	.....	.....	
17,570	70,280	.1933	.0366	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	70,280
Elastic limit per square inch of original section	do...	33,000
Elongation per inch after rupture	inch..	0.2667
Elongation per inch under strain at elastic limit	do...	.001100
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		".20 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".16, ".47*, ".17

No. 2663.

Marks, $\frac{8\ Cn\ 14\ T}{B\ T.\ O}$
Diameter, ".563.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000333	.000200	0.		
3,750	15,000	.000467	.000134	0.		
5,000	20,000	.000667	.000200	0.		
6,250	25,000	.000800	.000133	0.		
7,500	30,000	.001000	.000200	0.		
7,750	31,000	.001033	.000033			
8,000	32,000	.001067	.000034			
8,250	33,000	.001133	.000066			Elastic limit.
8,500	34,000	.002333	.001200			
8,750	35,000	.003367	.001034			
9,000	36,000	.003733	.000366			
9,250	37,000	.004267	.000534			
9,500	38,000	.005167	.000900			
9,750	39,000	.005633	.000466			
10,000	40,000	.006700	.001067			
10,250	41,000	.008000	.001300			
10,500	42,000	.009000	.001000			
10,750	43,000	.010000	.001000			
11,000	44,000	.011000	.001000			
11,250	45,000	.012167	.001167			
11,500	46,000	.013333	.001166			
11,750	47,000	.014667	.001334			
12,000	48,000	.015833	.001166			
12,250	49,000	.016833	.001000			
12,500	50,000	.018333	.001500			
13,000	52,000	.021667	.003334			
13,500	54,000	.025000	.003333			
14,000	56,000	.028333	.003333			
14,500	58,000	.032333	.004000			
15,000	60,000	.037000	.004667			
15,500	62,000	.042500	.005500			
16,000	64,000	.0533	.0118			
16,500	66,000	.0600	.0067			
17,000	68,000	.0667	.0067			
17,500	70,000	.0867	.0200			
18,000	72,000	.1100	.0233			
18,490	73,960	.1700	.0600			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,960
Elastic limit per square inch of original section	do...	33,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.001172
Reduction in diameter at point of rupture	do...	.084
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		".68 from nc
Character of broken surface		silky, flaky; opened small cracks in surface of ste
Elongation of inch sections		".29", ".17, ".14

No. 2664.

Marks, $^{8\ Cu\ R}_{B\ T,\ M}{}^{T}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000533	.000200	0.	.....	
5,000	20,000	.000667	.000134	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.001000	.000200	0.	.....	
7,750	31,000	.001067	.000067	.....	.....	
8,000	32,000	.001167	.000100	.....	.....	Elastic limit.
8,250	33,000	.003667	.002500	.....	.....	
8,500	34,000	.004667	.001000	.....	.....	
8,750	35,000	.005300	.000633	.004000	.004000	
9,000	36,000	.005700	.000400	.....	.....	
9,250	37,000	.006333	.000633	.....	.....	
9,500	38,000	.007333	.001000	.....	.....	
9,750	39,000	.008667	.001334	.....	.....	
10,000	40,000	.010000	.001333	.....	.....	
10,250	41,000	.010833	.000833	.....	.....	
10,500	42,000	.011667	.000834	.....	.....	
10,750	43,000	.012667	.001000	.....	.....	
11,000	44,000	.014167	.001500	.....	.....	
11,250	45,000	.015500	.001333	.....	.....	
11,500	46,000	.016833	.001333	.....	.....	
11,750	47,000	.018000	.001167	.....	.....	
12,000	48,000	.019833	.001833	.....	.....	
12,500	50,000	.022667	.002834	.....	.....	
13,000	52,000	.026333	.003666	.....	.....	
13,500	54,000	.030000	.003667	.....	.....	
14,000	56,000	.034667	.004667	.....	.....	
14,500	58,000	.039000	.004333	.....	.....	
15,000	60,000	.0467	.0077	.....	.....	
15,500	62,000	.0567	.0100	.....	.....	
16,000	64,000	.0667	.0100	.....	.....	
16,500	66,000	.0733	.0066	.....	.....	
17,000	68,000	.0933	.0200	.....	.....	
17,500	70,000	.1233	.0300	.....	.....	
17,880	71,520	.1900	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	71,520
Elastic limit per square inch of original section	do...	32,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture	½ inch from middle of stem	
Character of broken surface	silky; opened cracks in surface of stem	
Elongation of inch sections	".21", ".40", ".17	

No. 2665.

Marks, $\frac{8\,Cu\,R,\,T}{M\,T,\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000267	.000100	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000600	.000200	0.	.....	
6,250	25,000	.000733	.000133	0.	.....	
7,500	30,000	.000933	.000200	—.000067	—.000067	
7,750	31,000	.000967	.000034	.....	.....	
8,000	32,000	.000967	0.	.....	.....	
8,250	33,000	.001000	.000033	.....	.....	
8,500	34,000	.001033	.000033	.....	.....	
8,750	35,000	.001100	.000067	—.000067	0.	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001200	.000067	.....	.....	
9,500	38,000	.001267	.000067	.....	.....	
9,750	39,000	.001333	.000066	.....	.....	Elastic limit.
10,000	40,000	.002533	.001200	.....	.....	
10,250	41,000	.002933	.000400	.....	.....	
10,500	42,000	.004100	.001167	.....	.....	
10,750	43,000	.005100	.001000	.....	.....	
11,000	44,000	.006500	.001400	.....	.....	
11,250	45,000	.007500	.001000	.....	.....	
11,500	46,000	.008500	.001000	.....	.....	
11,750	47,000	.009667	.001167	.....	.....	
12,000	48,000	.010883	.001166	.....	.....	
12,250	49,000	.012000	.001167	.....	.....	
12,500	50,000	.013000	.001000	.....	.....	
13,000	52,000	.015667	.002667	.....	.....	
13,500	54,000	.018333	.002666	.....	.....	
14,000	56,000	.020667	.002334	.....	.....	
14,500	58,000	.024333	.003666	.....	.....	
15,000	60,000	.027667	.003334	.....	.....	
15,500	62,000	.031333	.003666	.....	.....	
16,000	64,000	.035667	.004334	.....	.....	
16,500	66,000	.040333	.004666	.....	.....	
17,000	68,000	.0467	.006367	.....	.....	
17,500	70,000	.0600	.0133	.....	.....	
18,000	72,000	.0667	.0067	.....	.....	
18,500	74,000	.0833	.0166	.....	.....	
19,000	76,000	.1000	.0167	.....	.....	
19,420	77,680	.1667	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,6[illegible]
Elastic limit per square inch of original section	do...	39,0[illegible]
Ellongation per inch after rupture	inch..	0.22[illegible]
Elongation per inch under strain at elastic limit	do...	.001[illegible]
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section	...	44.[illegible]
Position of rupture		1″.20 from neck
Character of broken surface		silky
Elongation of inch sections		″.13, ″.22, ″.33

No. 2666.

Marks, $^{8\,Cn\,R,T}_{M\,T,O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000300	.000133	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000600	.000100	0.	.....	
6,250	25,000	.000800	.000200	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001167	.000200	0.	.....	
9,000	36,000	.001233	.000066	.....	.....	
9,250	37,000	.001267	.000034	.....	.....	Elastic limit.
9,500	38,000	.001433	.000166	.....	.....	
9,750	39,000	.001533	.000100	.....	.....	
10,000	40,000	.001767	.000234	.000567	.000567	
10,250	41,000	.002933	.001266	.....	.....	
10,500	42,000	.003333	.000400	.....	.....	
10,750	43,000	.004167	.000834	.....	.....	
11,000	44,000	.005333	.001166	.....	.....	
11,250	45,000	.006333	.001000	.....	.....	
11,500	46,000	.007667	.001334	.....	.....	
11,750	47,000	.008667	.001000	.....	.....	
12,000	48,000	.009333	.000666	.....	.....	
12,250	49,000	.010333	.001000	.....	.....	
12,500	50,000	.011667	.001334	.....	.....	
13,000	52,000	.014000	.002333	.....	.....	
13,500	54,000	.016333	.002333	.....	.....	
14,000	56,000	.019000	.002667	.....	.....	
14,500	58,000	.022000	.003000	.....	.....	
15,000	60,000	.025000	.003000	.....	.....	
15,500	62,000	.028333	.003333	.....	.....	
16,000	64,000	.032333	.004000	.....	.....	
16,500	66,000	.036500	.004167	.....	.....	
17,000	68,000	.0433	.0068	.....	.....	
17,500	70,000	.0500	.0067	.....	.....	
18,000	72,000	.0600	.0100	.....	.....	
18,500	74,000	.0667	.0067	.....	.....	
19,000	76,000	.0833	.0166	.....	.....	
19,500	78,000	.1133	.0300	.....	.....	
19,550	78,200	.1333	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,200
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2067
Elongation per inch under strain at elastic limit	do ..	.001267
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		".35 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".11, ".36*, ".15

No. 2667.

Marks, $\frac{8\ Cn\ R,\ T}{M\ T,\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

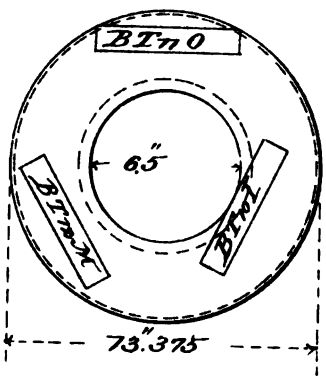
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000433	.000100	0.	.....	
5,000	20,000	.000667	.000234	0.	.....	
6,250	25,000	.000733	.000066	0.	.....	
7,500	30,000	.001000	.000267	0.	.....	
8,750	35,000	.001133	.000133	0.	.....	
9,000	36,000	.001200	.000067	.....	.....	
9,250	37,000	.001267	.000067	.....	.....	
9,500	38,000	.001333	.000066	.....	.....	Elastic limit.
9,750	39,000	.001700	.000367	.....	.....	
10,000	40,000	.002667	.000967	.....	.....	
10,250	41,000	.003367	.000700	.....	.....	
10,500	42,000	.004667	.001300	.....	.....	
10,750	43,000	.005667	.001000	.....	.....	
11,000	44,000	.006833	.001166	.....	.....	
11,250	45,000	.008000	.001167	.....	.....	
11,500	46,000	.008833	.000833	.....	.....	
11,750	47,000	.009833	.001000	.....	.....	
12,000	48,000	.011433	.001600	.....	.....	
12,250	49,000	.012333	.000900	.....	.....	
12,500	50,000	.013467	.001134	.....	.....	
13,000	52,000	.015733	.002266	.....	.....	
13,500	54,000	.018333	.002600	.....	.....	
14,000	56,000	.021000	.002667	.....	.....	
14,500	58,000	.024333	.003333	.....	.....	
15,000	60,000	.027733	.003400	.....	.....	
15,500	62,000	.031500	.003767	.....	.....	
16,000	64,000	.035667	.004167	.....	.....	
16,500	66,000	.040167	.004500	.....	.....	
17,000	68,000	.0533	.003133	.....	.....	
17,500	70,000	.0600	.0067	.....	.....	
18,000	72,000	.0667	.0067	.....	.....	
18,500	74,000	.0833	.0166	.....	.....	
19,000	76,000	.1000	.0167	.....	.....	
19,380	77,520	.1400	.0400	.....	.....	Tensile strength.

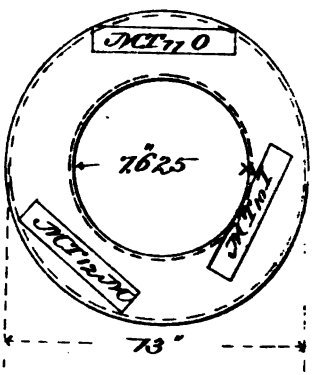
General summary.

Tensile strength per square inch of original section	pounds..	77,520
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2800
Elongation per inch under strain at elastic limit	do..	.00122
Reduction in diameter at point of rupture	do ..	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		".37 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".11, .31", .18

New Tube No. 7 8" converted Rifle

Additional specimens





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No. 2779.

Marks, $\frac{8\,Cu\,R_7\,T}{B\,T_{10}\,I}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000200	.000200	0.	.....	
2,500	10,000	.000433	.000233	0.	.....	
3,750	15,000	.000633	.000200	0.	.....	
5,000	20,000	.000767	.000134	0.	.....	
6,250	25,000	.000933	.000166	0.	.....	
7,500	30,000	.001100	.000167	0.	.....	
8,750	35,000	.001267	.000167	0.	.....	
9,000	36,000	.001300	.000033	.....	.....	
9,250	37,000	.001300	0.	.....	.....	
9,500	38,000	.001333	.000033	.....	.....	
9,750	39,000	.001367	.000034	.....	.....	
10,000	40,000	.001433	.000066	.....	.....	Elastic limit.
10,250	41,000	.001533	.000100	.....	.....	
10,500	42,000	.001767	.000234	.....	.....	
10,750	43,000	.002200	.000433	.....	.....	
11,000	44,000	.002700	.000500	.....	.....	
11,250	45,000	.003100	.000400	.....	.....	
11,500	46,000	.003800	.000700	.....	.....	
11,750	47,000	.004533	.000733	.....	.....	
12,000	48,000	.005400	.000867	.....	.....	
12,250	49,000	.006100	.000700	.....	.....	
12,500	50,000	.007300	.001200	.....	.....	
13,000	52,000	.009500	.002200	.....	.....	
13,500	54,000	.012000	.002500	.....	.....	
14,000	56,000	.014500	.002500	.....	.....	
14,500	58,000	.016800	.002300	.....	.....	
15,000	60,000	.019567	.002767	.....	.....	
15,500	62,000	.022667	.003100	.....	.....	
16,000	64,000	.026000	.003333	.....	.....	
16,500	66,000	.029700	.003700	.....	.....	
17,000	68,000	.034500	.004800	.....	.....	
17,500	70,000	.038367	.004167	.....	.....	
18,000	72,000	.044367	.005700	.....	.....	
18,500	74,000	.050833	.006466	.....	.....	
19,000	76,000	.0567	.005867	.....	.....	
19,500	78,000	.0700	.0133	.....	.....	
20,000	80,000	.0900	.0200	.....	.....	
20,200	80,800	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,800
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		1″ 10 from neck
Character of broken surface		silky, flaky; opened fine cracks in surface of stem
Elongation of inch sections		″.10. ″.16. ″.28*

No. 2780.

Marks, $\frac{8\ Cn\ R,\ T}{B\ T_{11}\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001167	.000200	0.	.....	
10,000	40,000	.001333	.000166	.....	.....	
10,250	41,000	.001400	.000067	.....	.....	
10,500	42,000	.001433	.000033	.....	.....	
10,750	43,000	.001500	.000067	.....	.....	Elastic limit.
11,000	44,000	.001733	.000233	.....	.....	
11,250	45,000	.002100	.000367	.....	.....	
11,500	46,000	.002700	.000600	.....	.....	
11,750	47,000	.003167	.000467	.....	.....	
12,000	48,000	.003800	.000633	.....	.....	
12,250	49,000	.004467	.000667	.....	.....	
12,500	50,000	.005433	.000966	.....	.....	
13,000	52,000	.007233	.001800	.....	.....	
13,500	54,000	.009433	.002200	.....	.....	
14,000	56,000	.011400	.001967	.....	.....	
14,500	58,000	.013733	.002333	.....	.....	
15,000	60,000	.016100	.002367	.....	.....	
15,500	62,000	.018667	.002567	.....	.....	
16,000	64,000	.021433	.002766	.....	.....	
16,500	66,000	.024667	.003234	.....	.....	
17,000	68,000	.027700	.003033	.....	.....	
17,500	70,000	.031667	.003967	.....	.....	
18,000	72,000	.035500	.003833	.....	.....	
18,500	74,000	.040000	.004500	.....	.....	
19,000	76,000	.045833	.005833	.....	.....	
19,500	78,000	.052333	.006500	.....	.....	
20,000	80,000	.0600	.007667	.....	.....	
20,500	82,000	.0733	.0133	.....	.....	
21,000	84,000	.0933	.0200	.....	.....	
21,210	84,840	.1333	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,840
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.1867
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		″.65 from neck
Character of broken surface		silky
Elongation of inch sections		″.09, ″.12, ″.35

No. 2781.

Marks, $^{S\ Cn\ R,\ T}_{B\ T,;\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001200	.000200	0.	.....	
9,000	36,000	.001233	.000033	.....	.....	
9,250	37,000	.001300	.000067	.....	.....	
9,500	38,000	.001400	.000100	.....	.....	Elastic limit.
9,750	39,000	.001933	.000533	.....	.....	
10,000	40,000	.003233	.001300	.....	.....	
10,250	41,000	.003967	.000734	.....	.....	
10,500	42,000	.005000	.001033	.....	.....	
10,750	43,000	.005733	.000733	.....	.....	
11,000	44,000	.006733	.001000	.....	.....	
11,250	45,000	.007667	.000934	.....	.....	
11,500	46,000	.008667	.001000	.....	.....	
11,750	47,000	.009833	.000966	.....	.....	
12,000	48,000	.010867	.001234	.....	.....	
12,250	49,000	.011867	.001000	.....	.....	
12,500	50,000	.013200	.001333	.....	.....	
13,000	52,000	.015833	.002633	.....	.....	
13,500	54,000	.019000	.003167	.....	.....	
14,000	56,000	.021467	.002467	.....	.....	
14,500	58,000	.024667	.003200	.....	.....	
15,000	60,000	.028200	.003533	.....	.....	
15,500	62,000	.032333	.004133	.....	.....	
16,000	64,000	.036833	.004500	.....	.....	
16,500	66,000	.042167	.005334	.....	.....	
17,000	68,000	.048000	.005833	.....	.....	
17,500	70,000	.055333	.007333	.....	.....	
18,000	72,000	.0633	.007967	.....	.....	
18,500	74,000	.0767	.0134	.....	.....	
19,000	76,000	.1067	.0300	.....	.....	
19,140	76,560	.1367	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,560
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2033
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		1".20 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".09, ".25, ".27*

No. 2782.

Marks, $\frac{8\,Cn\,R,\,T}{M\,T_{10}\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133			
2,500	10,000	.000300	.000167			
3,750	15,000	.000467	.000167			
5,000	20,000	.000633	.000166			
6,250	25,000	.000800	.000167			
7,500	30,000	.000967	.000167			
8,750	35,000	.001133	.000166			
10,000	40,000	.001300	.000167			
10,250	41,000	.001333	.000033			
10,500	42,000	.001367	.000034			
10,750	43,000	.001367	0.			
11,000	44,000	.001400	.000033			
11,250	45,000	.001433	.000033			
11,500	46,000	.001533	.000100			Elastic limit.
11,750	47,000	.002233	.000700			
12,000	48,000	.004033	.001800			
12,250	49,000	.005000	.000967			
12,500	50,000	.006400	.001400			
13,000	52,000	.008933	.002533			
13,500	54,000	.011500	.002567			
14,000	56,000	.014000	.002500			
14,500	58,000	.016167	.002167			
15,000	60,000	.018833	.002666			
15,500	62,000	.021333	.002500			
16,000	64,000	.024167	.002834			
16,500	66,000	.027667	.003500			
17,000	68,000	.031000	.003333			
17,500	70,000	.035500	.004500			
18,000	72,000	.040333	.004833			
18,500	74,000	.045667	.005334			
19,000	76,000	.054000	.008333			
19,500	78,000	.060333	.006333			
20,000	80,000	.0700	.009667			
20,500	82,000	.1000	.0300			
20,700	82,800	.1300	.0300			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	82,800
Elastic limit per square inch of original section	do	46,000
Elongation per inch after rupture	inch	0.2033
Elongation per inch under strain at elastic limit	do	.001133
Reduction in diameter at point of rupture	do	.161
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″.25 from neck
Character of broken surface		silky
Elongation of inch sections		″.22*, ″.38*, ″.11

No. 2783.

Marks, $\frac{8\ Cn\ R_7\ T}{M\ T_{11}\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001033	.000200	0.	.....	
8,750	35,000	.001200	.000167	0.	.....	
9,000	36,000	.001233	.000033	.....	.....	
9,250	37,000	.001300	.000067	.....	.....	
9,500	38,000	.001333	.000033	.....	.....	
9,750	39,000	.001367	.000034	.....	.....	
10,000	40,000	.001400	.000033	.....	.....	
10,250	41,000	.001467	.000067	.....	.....	Elastic limit.
10,500	42,000	.002533	.001066	.....	.....	
10,750	43,000	.003900	.001367	.....	.....	
11,000	44,000	.006000	.002100	.....	.....	
11,250	45,000	.007333	.001333	.....	.....	
11,500	46,000	.008100	.000767	.....	.....	
11,750	47,000	.008833	.000733	.....	.....	
12,000	48,000	.010333	.001500	.....	.....	
12,250	49,000	.011333	.001000	.....	.....	
12,500	50,000	.012600	.001267	.....	.....	
13,000	52,000	.014500	.001900	.....	.....	
13,500	54,000	.017167	.002667	.....	.....	
14,000	56,000	.020167	.003000	.....	.....	
14,500	58,000	.023333	.003166	.....	.....	
15,000	60,000	.026167	.002834	.....	.....	
15,500	62,000	.029667	.003500	.....	.....	
16,000	64,000	.033233	.003566	.....	.....	
16,500	66,000	.038000	.004767	.....	.....	
17,000	68,000	.043167	.005167	.....	.....	
17,500	70,000	.049667	.006500	.....	.....	
18,000	72,000	.056933	.007266	.....	.....	
18,500	74,000	.0667	.009767	.....	.....	
19,000	76,000	.0833	.0166	.....	.....	
19,500	78,000	.1100	.0267	.....	.....	
19,590	78,360	.1367	.0267	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,360
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.1967
Elongation per inch under strain at elastic limit	do ..	.001467
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section	...	44.6
Position of rupture		″.45 from neck
Character of broken surface		silky
Elongation of inch sections		″.10, ″.13, ″.36*

No. 2784.

Marks, $\frac{8\,C_2\,R_7\,T}{M\,T_{12}\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	Elastic limit.
9,750	39,000	.001400	.000133	.....	.....	
10,000	40,000	.001633	.000233	.....	.....	
10,250	41,000	.001967	.000334	.....	.....	
10,500	42,000	.002400	.000433	.....	.....	
10,750	43,000	.002700	.000300	.....	.....	
11,000	44,000	.003000	.000300	.....	.....	
11,250	45,000	.004000	.001000	.....	.....	
11,500	46,000	.006333	.002333	.....	.....	
11,750	47,000	.007667	.001334	.....	.....	
12,000	48,000	.008333	.000666	.....	.....	
12,250	49,000	.009167	.000834	.....	.....	
12,500	50,000	.010333	.001166	.....	.....	
13,000	52,000	.012833	.002500	.....	.....	
13,500	54,000	.015833	.003000	.....	.....	
14,000	56,000	.018000	.002167	.....	.....	
14,500	58,000	.020667	.002667	.....	.....	
15,000	60,000	.023267	.002600	.....	.....	
15,500	62,000	.026333	.003066	.....	.....	
16,000	64,000	.029667	.003334	.....	.....	
16,500	66,000	.033000	.003333	.....	.....	
17,000	68,000	.037333	.004333	.....	.....	
17,500	70,000	.043167	.005834	.....	.....	
18,000	72,000	.048333	.005166	.....	.....	
18,500	74,000	.054667	.006334	.....	.....	
19,000	76,000	.0667	.012033	.....	.....	
19,500	78,000	.0767	.0100	.....	.....	
20,000	80,000	.1067	.0300	.....	.....	
20,060	80,240	.1300	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,240
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		″.70 from neck
Character of broken surface		silky
Elongation of inch sections		″.37*, ″.11, ″.09

NEW TUBE No. 8.

No. 2146.

Marks, $\frac{8\,T_8}{BT_7\,I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001167	.000200	.000033	.000033	Elastic limit.
9,000	36,000	.001367	.000200	.....	.....	
9,250	37,000	.008367	.007000	.....	.....	
9,500	38,000	.009500	.001133	.....	.....	
9,750	39,000	.010433	.000933	.....	.....	
10,000	40,000	.012033	.001600	.....	.....	
10,250	41,000	.012700	.000667	.....	.....	
10,500	42,000	.014000	.001300	.....	.....	
10,750	43,000	.015400	.001400	.....	.....	
11,000	44,000	.016700	.001300	.....	.....	
11,250	45,000	.017867	.001167	.....	.....	
11,500	46,000	.019533	.001666	.....	.....	
11,750	47,000	.020667	.001134	.....	.....	
12,000	48,000	.022500	.001833	.....	.....	
12,250	49,000	.024000	.001500	.....	.....	
12,500	40,000	.025833	.001833	.....	.....	
13,000	52,000	.030000	.004167	.....	.....	
13,500	54,000	.034333	.004333	.....	.....	
14,000	56,000	.039167	.004834	.....	.....	
14,500	58,000	.044833	.005666	.....	.....	
15,000	60,000	.051333	.006500	.....	.....	
15,500	62,000	.058267	.006934	.....	.....	
16,000	64,000	.069000	.010733	.....	.....	
16,500	66,000	.0867	.0177	.....	.....	
17,000	68,000	.1033	.0166	.....	.....	
17,500	70,000	.1467	.0434	.....	.....	
17,550	70,200	.1900	.0433	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8591
Hardness		11.23
Tensile strength per square inch of original section	pounds..	70,200
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		1".20 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".33*, ".30, ".15

No. 2147.

Marks, $\frac{8T_8}{B\,T_8\,O}$
Diameter, .564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	.000033	.000033	
2,500	10,000	.000367	.000200	.000033	0.	
3,750	15,000	.000567	.000200	.000033	0.	
5,000	20,000	.000733	.000166	.000067	.000034	
6,250	25,000	.000900	.000167	.000100	.000033	
7,500	30,000	.001033	.000133	.000100	0.	
8,750	35,000	.001233	.000200	.000100	0.	
9,000	36,000	.001333	.000100	.....	.....	
9,250	37,000	.001400	.000067	.....	.....	Elastic limit.
9,500	38,000	.005000	.003600	.....	.....	
9,750	39,000	.007833	.002833	.....	.....	
10,000	40,000	.009333	.001500	.....	.....	
10,250	41,000	.010400	.001067	.....	.....	
10,500	42,000	.011500	.001100	.....	.....	
10,750	43,000	.012600	.001100	.....	.....	
11,000	44,000	.013733	.001133	.....	.....	
11,250	45,000	.014900	.001167	.....	.....	
11,500	46,000	.016033	.001133	.....	.....	
11,750	47,000	.017233	.001200	.....	.....	
12,000	48,000	.018667	.001434	.....	.....	
12,250	49,000	.020000	.001333	.....	.....	
12,500	50,000	.021667	.001667	.....	.....	
13,000	52,000	.025000	.003333	.....	.....	
13,500	54,000	.028333	.003333	.....	.....	
14,000	56,000	.032167	.003834	.....	.....	
14,500	58,000	.036333	.004166	.....	.....	
15,000	60,000	.041167	.004834	.....	.....	
15,500	62,000	.046667	.005500	.....	.....	
16,000	64,000	.052833	.006166	.....	.....	
16,500	66,000	.061333	.008500	.....	.....	
17,000	68,000	.070333	.009000	.....	.....	
17,500	70,000	.0867	.016367	.....	.....	
18,000	72,000	.1067	.0200	.....	.....	
18,380	73,520	.1733	.0666	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,520
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		½ inch from middle of stem
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".20, ".41", ".14

No. 2148.

Marks, $\frac{8\ T_3}{B\ T_3\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
7,750	31,000	.001000	.000033	.....	.....	
8,000	32,000	.001000	0.	.....	.....	
8,250	33,000	.001033	.000033	.....	.....	
8,500	34,000	.001067	.000034	.....	.....	
8,750	35,000	.001100	.000033	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001200	.000067	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001367	.000100	.000067	.000067	
10,250	41,000	.001433	.000066	.....	.....	Elastic limit.
10,500	42,000	.002033	.000600	.....	.....	
10,750	43,000	.006333	.004300	.....	.....	
11,000	44,000	.007700	.001367	.....	.....	
11,250	45,000	.008433	.000733	.....	.....	
11,500	46,000	.009767	.001334	.....	.....	
11,750	47,000	.010767	.001000	.....	.....	
12,000	48,000	.012000	.001233	.....	.....	
12,250	49,000	.013067	.001067	.....	.....	
12,500	50,000	.014467	.001400	.....	.....	
13,000	52,000	.017333	.002866	.....	.....	
13,500	54,000	.019667	.002334	.....	.....	
14,000	56,000	.022667	.003000	.....	.....	
14,500	58,000	.026333	.003666	.....	.....	
15,000	60,000	.030167	.003834	.....	.....	
15,500	62,000	.034167	.004000	.....	.....	
16,000	64,000	.038333	.004166	.....	.....	
16,500	66,000	.044333	.006000	.....	.....	
17,000	68,000	.051000	.006667	.....	.....	
17,500	70,000	.063000	.012000	.....	.....	
18,000	72,000	.0733	.0103	.....	.....	
18,500	74,000	.0933	.0200	.....	.....	
19,000	76,000	.1367	.0434	.....	.....	
19,020	76,080	.1600	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,080
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.104
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		".20 from middle of stem
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".20, ".35*, ".1*

No. 2149.

Marks, $\frac{S\ T.}{M\ T.\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	Elastic limit.
9,000	36,000	.001267	.000134	.....	.....	
9,250	37,000	.001367	.000100	.....	.....	
9,500	38,000	.007733	.000366	.....	.....	
9,750	39,000	.008467	.000734	.....	.....	
10,000	40,000	.009333	.000866	.....	.....	
10,250	41,000	.010333	.001000	.....	.....	
10,500	42,000	.011500	.001167	.....	.....	
10,750	43,000	.012000	.000500	.....	.....	
11,000	44,000	.013733	.001733	.....	.....	
11,250	45,000	.014500	.000767	.....	.....	
11,500	46,000	.015800	.001300	.....	.....	
11,750	47,000	.016833	.001033	.....	.....	
12,000	48,000	.018067	.001234	.....	.....	
12,250	49,000	.019133	.001066	.....	.....	
12,500	50,000	.020800	.001667	.....	.....	
13,000	52,000	.023333	.002533	.....	.....	
13,500	54,000	.026667	.003334	.....	.....	
14,000	56,000	.030000	.003334	.....	.....	
14,500	58,000	.033733	.003733	.....	.....	
15,000	60,000	.038000	.004267	.....	.....	
15,500	62,000	.043333	.005333	.....	.....	
16,000	64,000	.048333	.005000	.....	.....	
16,500	66,000	.055167	.006834	.....	.....	
17,000	68,000	.064000	.008833	.....	.....	
17,500	70,000	.0733	.0093	.....	.....	
18,000	72,000	.0933	.0200	.....	.....	
18,500	74,000	.1067	.0134	.....	.....	
18,790	75,160	.1567	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,160
Elastic limit per square inch of original section	do ..	35,000
Elongation per inch after rupture	inch..	0.2167
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do ..	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		½ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		".17, ".36", ".12

No. 2150.

Marks, $\frac{8\ T_8}{M\ T_8\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001133	.000133	0.	.....	
9,000	36,000	.001200	.000067	.....	.....	
9,250	37,000	.001267	.000067	.....	.....	Elastic limit.
9,500	38,000	.001400	.000133	.....	.....	
9,750	39,000	.006067	.005267	.....	.....	
10,000	40,000	.008733	.002666	.....	.....	
10,250	41,000	.009667	.000934	.....	.....	
10,500	42,000	.010333	.000666	.....	.....	
10,750	43,000	.011033	.000700	.....	.....	
11,000	44,000	.012000	.000967	.....	.....	
11,250	45,000	.013200	.001200	.....	.....	
11,500	46,000	.014133	.000933	.....	.....	
11,750	47,000	.015267	.001134	.....	.....	
12,000	48,000	.016500	.001233	.....	.....	
12,250	49,000	.017467	.000967	.....	.....	
12,500	50,000	.018800	.001333	.....	.....	
13,000	52,000	.021533	.002733	.....	.....	
13,500	54,000	.024333	.002800	.....	.....	
14,000	56,000	.027500	.003167	.....	.....	
14,500	58,000	.030833	.003333	.....	.....	
15,000	60,000	.034267	.003434	.....	.....	
15,500	62,000	.039167	.004900	.....	.....	
16,000	64,000	.043733	.004566	.....	.....	
16,500	66,000	.049167	.005434	.....	.....	
17,000	68,000	.055333	.006166	.....	.....	
17,500	70,000	.0633	.007967	.....	.....	
18,000	72,000	.0750	.0117	.....	.....	
18,500	74,000	.0967	.0217	.....	.....	
19,000	76,000	.1133	.0166	.....	.....	
19,410	77,640	.1800	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,640
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		".90 from neck
Character of broken surface, granular, 60 per centum; silky, 40 per centum; opened cracks in surface of stem.		
Elongation of inch sections		".31", ".20, ".19

No. 2151.

Marks, $\frac{S\ T.}{M\ T.\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

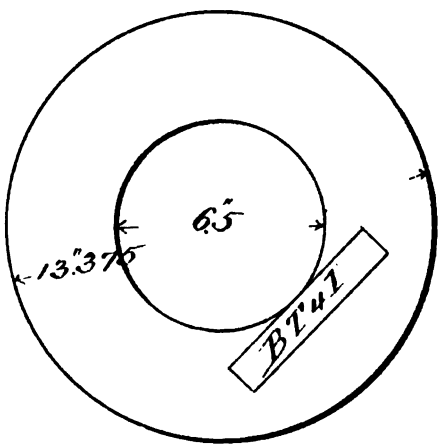
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001133	.000133	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	
10,000	40,000	.001367	.000067	.000033	.000033	
10,250	41,000	.001400	.000033	.....	.....	Elastic limit.
10,500	42,000	.001733	.000333	.....	.....	
10,750	43,000	.004400	.002667	.....	.....	
11,000	44,000	.006400	.00200	.....	.....	
11,250	45,000	.008000	.001600	.....	.....	
11,500	46,000	.008667	.000667	.....	.....	
11,750	47,000	.009167	.000500	.....	.....	
12,000	48,000	.010400	.001233	.....	.....	
12,250	49,000	.011000	.0006 0	.....	.....	
12,500	50,000	.012500	.001500	.....	.....	
13,000	52,000	.015000	.002500	.....	.....	
13,500	54,000	.017500	.002500	.....	.....	
14,000	56,000	.020000	.002500	.....	.....	
14,500	58,000	.022667	.002667	.....	.....	
15,000	60,000	.025833	.003166	.....	.....	
15,500	62,000	.029000	.003167	.....	.....	
16,000	64,000	.032800	.003800	.....	.....	
16,500	66,000	.036867	.004067	.....	.....	
17,000	68,000	.041333	.004666	.....	.....	
17,500	70,000	.047667	.006334	.....	.....	
18,000	72,000	.054000	.006333	.....	.....	
18,500	74,000	.062333	.008333	.....	.....	
19,000	76,000	.075000	.012667	.....	.....	
19,500	78,000	.0933	.0183	.....	.....	
20,000	80,000	.1367	.0434	.....	.....	
20,015	80,060	.1600	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,060
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		".45 from middle of stem
Character of broken surface		granular, 50 per centum; silky, 50 per centum
Elongation of inch sections		".22, ".33", ".15

Tube No. 9 8" converted Rifle

Additional specimen.



H Ex 31 492

No. 1000.

Marks, $\frac{8\ T_2}{B\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.		
2,500	10,000	.000267	.000167	0.		
3,750	15,000	.000433	.000166	0.		
5,000	20,000	.000600	.000167	0.		
6,250	25,000	.000767	.000167	0.		
7,500	30,000	.000933	.000166	0.		
8,750	35,000	.001100	.000167	0.		
10,000	40,000	.001233	.000133	0.		
10,250	41,000	.001267	.000034			
10,500	42,000	.001333	.000066			
10,750	43,000	.001367	.000034			
11,000	44,000	.001433	.000066			Elastic limit.
11,250	45,000	.006067	.004634	.004467	.004467	
11,500	46,000	.007833	.001766			
11,750	47,000	.008400	.000567			
12,000	48,000	.009733	.001333			
12,250	49,000	.011000	.001267			
12,500	50,000	.012267	.001267	.010433	.005966	
13,000	52,000	.014500	.002233			
13,500	54,000	.016833	.002333			
14,000	56,000	.019833	.003000			
14,500	58,000	.023000	.003167			
15,000	60,000	.026000	.003000			
15,500	62,000	.029667	.003667			
16,000	64,000	.033833	.004166			
16,500	66,000	.039333	.005500			
17,000	68,000	.043667	.004334			
17,500	70,000	.050667	.007000			
18,000	72,000	.059500	.008833			
18,500	74,000	.072000	.012500			
19,000	76,000	.1033	.0313			
19,280	77,120	.1667	.0634			Tensile strength.
16,300						Load at time of rupture.

General summary.

Tensile strength per square inch of original section	pounds..	77,120
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.2533
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".44", ".21, ".11

NEW TUBE No. 12.

No. 2164.

Marks, $\frac{8\ T_{12}}{B\ T_4\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	Elastic limit.
10,000	40,000	.001500	.000200	.....	.....	
10,250	41,000	.002500	.001000	.....	.....	
10,500	42,000	.004067	.001567	.....	.....	
10,750	43,000	.005400	.001333	.....	.....	
11,000	44,000	.006600	.001200	.....	.....	
11,250	45,000	.007667	.001067	.....	.....	
11,500	46,000	.008667	.001000	.....	.....	
11,750	47,000	.009667	.001000	.....	.....	
12,000	48,000	.010667	.001000	.....	.....	
12,250	49,000	.012000	.001333	.....	.....	
12,500	50,000	.013200	.001200	.....	.....	
12,750	51,000	.014333	.001133	.....	.....	
13,000	52,000	.015667	.001334	.....	.....	
13,250	53,000	.017333	.001666	.....	.....	
13,500	54,000	.018333	.001000	.....	.....	
13,750	55,000	.019700	.001367	.....	.....	
14,000	56,000	.021400	.001700	.....	.....	
14,250	57,000	.023033	.001633	.....	.....	
14,500	58,000	.024667	.001634	.....	.....	
14,750	59,000	.026167	.001500	.....	.....	
15,000	60,000	.028333	.002166	.....	.....	
15,500	62,000	.032333	.004000	.....	.....	
16,000	64,000	.036667	.004334	.....	.....	
16,500	66,000	.042000	.005333	.....	.....	
17,000	68,000	.048667	.006667	.....	.....	
17,500	70,000	.056667	.008000	.....	.....	
18,000	72,000	.070000	.013333	.....	.....	
18,500	74,000	.0900	.0200	.....	.....	
19,000	76,000	.1100	.0200	.....	.....	
19,170	76,680	.1667	.0567	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8566
Hardness	13.14
Tensile strength per square inch of original section ..... pounds	76,680
Elastic limit per square inch of original section ..... do	39,000
Elongation per inch after rupture ..... inch	0.2633
Elongation per inch under strain at elastic limit ..... do	.001500
Reduction in diameter at point of rupture ..... do	.174
Reduction in area after rupture, per centum of original section	52.2
Position of rupture	1 inch from neck
Character of broken surface	silky
Elongation of inch sections	″.40, ″.24, ″.15

No. 2165.

Marks, $\frac{8\ T_{12}}{B\ T_5\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000533	.000133	0.	.....	
6,250	25,000	.000667	.000134	0.	.....	
7,500	30,000	.000833	.000166	0.	.....	
8,750	35,000	.001000	.000167	0.	.....	
9,000	36,000	.001033	.000033	.....	.....	
9,250	37,000	.001067	.000034	.....	.....	
9,500	38,000	.001100	.000033	.....	.....	
9,750	39,000	.001133	.000033	.....	.....	
10,000	40,000	.001200	.000067	0.	.....	
10,250	41,000	.001233	.000033	.....	.....	Elastic limit.
10,500	42,000	.002167	.000934	.....	.....	
10,750	43,000	.003000	.000833	.....	.....	
11,000	44,000	.004100	.001100	.....	.....	
11,250	45,000	.005500	.001400	.....	.....	
11,500	46,000	.006733	.001233	.....	.....	
11,750	47,000	.007933	.001200	.....	.....	
12,000	48,000	.009000	.001067	.....	.....	
12,250	49,000	.010000	.001000	.....	.....	
12,500	50,000	.011033	.001033	.....	.....	
12,750	51,000	.012167	.001134	.....	.....	
13,000	52,000	.013333	.001166	.....	.....	
13,250	53,000	.014333	.001000	.....	.....	
13,500	54,000	.015800	.001467	.....	.....	
13,750	55,000	.017167	.001367	.....	.....	
14,000	56,000	.018600	.001433	.....	.....	
14,250	57,000	.019667	.001067	.....	.....	
14,500	58,000	.021233	.001566	.....	.....	
14,750	59,000	.022767	.001534	.....	.....	
15,000	60,000	.024567	.001800	.....	.....	
15,500	62,000	.027667	.003100	.....	.....	
16,000	64,000	.031533	.003866	.....	.....	
16,500	66,000	.036000	.004467	.....	.....	
17,000	68,000	.042667	.006667	.....	.....	
17,500	70,000	.047500	.004833	.....	.....	
18,000	72,000	.054167	.006667	.....	.....	
18,500	74,000	.063667	.009500	.....	.....	
19,000	76,000	.078333	.014666	.....	.....	
19,500	78,000	.1100	.031667	.....	.....	
19,580	78,320	.1400	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	78,320
Elastic limit per square inch of original section	do	41,000
Elongation per inch after rupture	inch	0.2100
Elongation per inch under strain at elastic limit	do	.001233
Reduction in diameter at point of rupture	do	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.36*, ″.18, ″.09

No. 2166.

Marks, $\frac{8\ T_{12}}{B\ T_6\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001000	.000200	.000033	.000033	
8,750	35,000	.001167	.000167	.000033	0.	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001300	.000067	.....	.....	
9,750	39,000	.001367	.000067	.....	.....	
10,000	40,000	.001400	.000033	.000067	.000034	Elastic limit.
10,250	41,000	.003833	.002433	.....	.....	
10,500	42,000	.006000	.002167	.....	.....	
10,750	43,000	.006900	.000900	.....	.....	
11,000	44,000	.008200	.001300	.....	.....	
11,250	45,000	.009333	.001133	.....	.....	
11,500	46,000	.010033	.000700	.....	.....	
11,750	47,000	.011000	.000967	.....	.....	
12,000	48,000	.012333	.001333	.....	.....	
12,250	49,000	.013500	.001167	.....	.....	
12,500	50,000	.014733	.001233	.....	.....	
12,750	51,000	.015933	.001200	.....	.....	
13,000	52,000	.017700	.001767	.....	.....	
13,250	53,000	.019000	.001300	.....	.....	
13,500	54,000	.020677	.001667	.....	.....	
13,750	55,000	.022000	.001333	.....	.....	
14,000	56,000	.023677	.001667	.....	.....	
14,250	57,000	.025333	.001666	.....	.....	
14,500	58,000	.027067	.001734	.....	.....	
14,750	59,000	.029000	.001933	.....	.....	
15,000	60,000	.031000	.002000	.....	.....	
15,500	62,000	.035500	.004500	.....	.....	
16,000	64,000	.040400	.004900	.....	.....	
16,500	66,000	.046667	.006267	.....	.....	
17,000	68,000	.054333	.007666	.....	.....	
17,500	70,000	.063333	.009000	.....	.....	
18,000	72,000	.077333	.014000	.....	.....	
18,500	74,000	.1000	.022667	.....	.....	
18,750	75,000	.1667	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,000
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2933
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.151
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		½ inch from middle of stem
Character of broken surface		silky
Elongations of inch sections		″.26, ″.37°, ″.15

No. 2167.

Marks, $\frac{S\ T_{12}}{M\ T_9\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001300	.000167	0.	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	Elastic limit.
11,000	44,000	.001567	.000167	.....	.....	
11,250	45,000	.003167	.001600	.....	.....	
11,500	46,000	.006467	.003300	.....	.....	
11,750	47,000	.007600	.001133	.....	.....	
12,000	48,000	.008833	.001233	.....	.....	
12,250	49,000	.010133	.001300	.....	.....	
12,500	50,000	.011300	.001167	.....	.....	
12,750	51,000	.012233	.000933	.....	.....	
13,000	52,000	.013400	.001167	.....	.....	
13,250	53,000	.014367	.000967	.....	.....	
13,500	54,000	.015800	.001433	.....	.....	
13,750	55,000	.016933	.001133	.....	.....	
14,000	56,000	.018333	.001400	.....	.....	
14,250	57,000	.019633	.001300	.....	.....	
14,500	58,000	.020967	.001334	.....	.....	
14,750	59,000	.022300	.001333	.....	.....	
15,000	60,000	.024033	.001733	.....	.....	
15,500	62,000	.027500	.003467	.....	.....	
16,000	64,000	.031333	.003833	.....	.....	
16,500	66,000	.035333	.004000	.....	.....	
17,000	68,000	.040667	.005334	.....	.....	
17,500	70,000	.048000	.007333	.....	.....	
18,000	72,000	.054500	.006500	.....	.....	
18,500	74,000	.065000	.010500	.....	.....	
19,000	76,000	.0767	.0117	.....	.....	
19,500	78,000	.1067	.0300	.....	.....	
19,760	79,040	.1700	.0633	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,040
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		".05 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".20, ".39*, ".13

No. 1268.

Marks, $\frac{S\ T_2}{M\ T,\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000867	.000200	.000067	.000067	
7,500	30,000	.001067	.000200	.000100	.000033	
8,750	35,000	.001200	.000133	.000100	0.	
9,000	36,000	.001267	.000067	.....	.....	
9,250	37,000	.001300	.000033	.....	.....	
9,500	38,000	.001367	.000067	.....	.....	
9,750	39,000	.001400	.000033	.....	.....	
10,000	40,000	.001433	.000033	.000100	0.	
10,250	41,000	.001467	.000034	.....	.....	Elastic limit.
10,500	42,000	.005667	.004200	.....	.....	
10,750	43,000	.008333	.002666	.....	.....	
11,000	44,000	.009667	.001334	.....	.....	
11,250	45,000	.010400	.000733	.....	.....	
11,500	46,000	.012000	.001600	.....	.....	
11,750	47,000	.013000	.001000	.....	.....	
12,000	48,000	.013933	.000933	.....	.....	
12,250	49,000	.014667	.000734	.....	.....	
12,500	50,000	.016000	.001333	.....	.....	
12,750	51,000	.017067	.001067	.....	.....	
13,000	52,000	.018967	001900	.....	.....	
13,250	53,000	.020667	.001700	.....	.....	
13,500	54,000	.022333	.001666	.....	.....	
13,750	55,000	.022333	.001000	.....	.....	
14,000	56,000	.024333	.001000	.....	.....	
14,250	57,000	.025700	.001367	.....	.....	
14,500	58,000	.027400	.001700	.....	.....	
14,750	59,000	.029200	.001800	.....	.....	
15,000	60,000	.031333	.002133	.....	.....	
15,500	62,000	.035000	.003667	.....	.....	
16,000	64,000	.040000	.005000	.....	.....	
16,500	66,000	.045500	.005500	.....	.....	
17,000	68,000	.051667	.006167	.....	.....	
17,500	70,000	.059333	.007666	.....	.....	
18,000	72,000	.069000	.009667	.....	.....	
18,500	74,000	.0867	.0177	.....	.....	
19,000	76,000	.1067	.0200	.....	.....	
19,210	76,840	.1433	.0366	.....	.....	Tensile strength.

General summary.

Tensile strength, per square inch of original section	pounds..	76,840
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch...	a.2200
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.44, ″.16, ″.09

No. 2169.

Marks, $_{M}{}^{8}T_{12}{}_{M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000233	.000100	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001133	.000066	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001267	.000034	.000033	.000033	Elastic limit.
10,250	41,000	.001400	.000133	.....	.....	
10,500	42,000	.010733	.009333	.....	.....	
10,750	43,000	.011667	.000934	.....	.....	
11,000	44,000	.012700	.001033	.....	.....	
11,250	45,000	.013833	.001133	.....	.....	
11,500	46,000	.015333	.001500	.....	.....	
11,750	47,000	.016167	.000834	.....	.....	
12,000	48,000	.017467	.001300	.....	.....	
12,250	49,000	.018733	.001266	.....	.....	
12,500	50,000	.020067	.001334	.....	.....	
12,750	51,000	.021333	.001266	.....	.....	
13,000	52,000	.023133	.002000	.....	.....	
13,250	53,000	.024533	.001200	.....	.....	
13,500	54,000	.026367	.001834	.....	.....	
13,750	55,000	.027867	.001500	.....	.....	
14,000	56,000	.029833	.001966	.....	.....	
14,250	57,000	.031433	.001600	.....	.....	
14,500	58,000	.033333	.001900	.....	.....	
14,750	59,000	.035067	.001734	.....	.....	
15,000	60,000	.038000	.002933	.....	.....	
15,500	62,000	.042500	.004500	.....	.....	
16,000	64,000	.048833	.006333	.....	.....	
16,500	66,000	.055000	.006167	.....	.....	
17,000	68,000	.063333	.008333	.....	.....	
17,500	70,000	.073333	.010000	.....	.....	
18,000	72,000	.0933	.019967	.....	.....	
18,500	74,000	.1233	.0300	.....	.....	
18,820	75,280	.1800	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,280
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		″.90 from neck
Character of broken surface		silky; slight granulation
Elongation of inch sections		″.37, ″.22, ″.18

NEW TUBE No. 13.

No. 2181.

Marks, $\frac{8\,T_{13}}{B\,T_8\,I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000800	.000200	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000900	.000133	0.	.....	
8,750	35,000	.001033	.000133	0.	.....	
9,000	36,000	.001067	.000034	.....	.....	
9,250	37,000	.001133	.000066	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001200	.000033	.....	.....	
10,000	40,000	.001233	.000033	0.	.....	
10,250	41,000	.001300	.000067	.....	.....	Elastic limit.
10,500	42,000	.002133	.000833	.....	.....	
10,750	43,000	.003333	.001200	.....	.....	
11,000	44,000	.005500	.002167	.....	.....	
11,250	45,000	.007400	.001900	.....	.....	
11,500	46,000	.008667	.001267	.....	.....	
11,750	47,000	.009733	.001066	.....	.....	
12,000	48,000	.011200	.001467	.....	.....	
12,250	49,000	.012167	.000967	.....	.....	
12,500	50,000	.013567	.001400	.....	.....	
12,750	51,000	.014667	.001100	.....	.....	
13,000	52,000	.016000	.001333	.....	.....	
13,250	53,000	.017333	.001333	.....	.....	
13,500	54,000	.019000	.001667	.....	.....	
13,750	55,000	.020233	.001233	.....	.....	
14,000	56,000	.021800	.001567	.....	.....	
14,250	57,000	.023333	.001533	.....	.....	
14,500	58,000	.025133	.001800	.....	.....	
14,750	59,000	.027333	.002200	.....	.....	
15,000	60,000	.029667	.002334	.....	.....	
15,500	62,000	.033833	.004166	.....	.....	
16,000	64,000	.038500	.004667	.....	.....	
16,500	66,000	.044500	.006000	.....	.....	
17,000	68,000	.052333	.007833	.....	.....	
17,500	70,000	.061667	.009334	.....	.....	
18,000	72,000	.075000	.013333	.....	.....	
18,500	74,000	.0967	.0217	.....	.....	
18,880	75,520	.1667	.0700	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8573
Hardness	12.64
Tensile strength per square inch of original section ..... pounds..	75,520
Elastic limit per square inch of original section ..... do...	41,000
Elongation per inch after rupture ..... inch..	0.2667
Elongation per inch under strain at elastic limit ..... do...	.001300
Reduction in diameter at point of rupture ..... do...	.184
Reduction in area after rupture, per centum of original section	54.6
Position of rupture	1¼" from neck
Character of broken surface	silky
Elongation of inch sections	".35", ".30, ".15

No. 2182.

Marks, $\frac{8\ T_{12}}{B\ T_2\ O}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000667	.000200	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001133	0.	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001267	.000034	0.	.....	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	
11,000	44,000	.001467	.000067	.....	.....	Elastic limit.
11,250	45,000	.007167	.005700	.....	.....	
11,500	46,000	.008100	.000933	.....	.....	
11,750	47,000	.009000	.000900	.....	.....	
12,000	48,000	.010067	.001067	.....	.....	
12,250	49,000	.011133	.001066	.....	.....	
12,500	50,000	.012333	.001200	.....	.....	
12,750	51,000	.013333	.001000	.....	.....	
13,000	52,000	.014400	.001067	.....	.....	
13,250	53,000	.015667	.001267	.....	.....	
13,500	54,000	.016667	.001000	.....	.....	
13,750	55,000	.017967	.001300	.....	.....	
14,000	56,000	.019633	.001666	.....	.....	
14,250	57,000	.021067	.001434	.....	.....	
14,500	58,000	.022500	.001433	.....	.....	
14,750	59,000	.024000	.001500	.....	.....	
15,000	60,000	.025933	.001933	.....	.....	
15,500	62,000	.029333	.003400	.....	.....	
16,000	64,000	.033333	.004000	.....	.....	
16,500	66,000	.038000	.004667	.....	.....	
17,000	68,000	.042667	.004667	.....	.....	
17,500	70,000	.049000	.006333	.....	.....	
18,000	72,000	.057500	.008500	.....	.....	
18,500	74,000	.067667	.010167	.....	.....	
19,000	76,000	.0900	.022333	.....	.....	
19,500	78,000	.1100	.0200	.....	.....	
19,700	78,800	.1667	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,800
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.175
Reduction in area after rupture, per centum of original section		52.2
Position of rupture	½ inch from middle of stem	
Character of broken surface		silky
Elongation of inch sections		″.25, ″.40*, ″.13

No. 2183.

Marks, $^{8}_{B}\,T_{12}\,T_{10}\,M$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001100	.000133	0.	.....	
9,000	36,000	.001167	.000067	.....	.....	
9,250	37,000	.001300	.000033	.....	.....	
9,500	38,000	.001267	.000067	.....	.....	
9,750	39,000	.001333	.000066	.....	.....	
10,000	40,000	.001400	.000067	.000133	.000133	Elastic limit.
10,520	41,000	.002300	.000900	.....	.....	
10,500	42,000	.004000	.001700	.....	.....	
10,750	43,000	.005033	.001033	.....	.....	
11,000	44,000	.006200	.001167	.....	.....	
11,250	45,000	.007200	.001000	.....	.....	
11,500	46,000	.008333	.001133	.....	.....	
11,750	47,000	.009500	.001167	.....	.....	
12,000	48,000	.010667	.001167	.....	.....	
12,250	49,000	.011400	.000733	.....	.....	
12,500	50,000	.012667	.001267	.....	.....	
12,750	51,000	.013767	.001100	.....	.....	
13,000	52,000	.015333	.001566	.....	.....	
13,250	53,000	.016667	.001334	.....	.....	
13,500	54,000	.018000	.001333	.....	.....	
13,750	55,000	.019167	.001167	.....	.....	
14,000	56,000	.020400	.001233	.....	.....	
14,250	57,000	.021733	.001333	.....	.....	
14,500	58,000	.023733	.002000	.....	.....	
14,750	59,000	.025167	.001434	.....	.....	
15,000	60,000	.027667	.002500	.....	.....	
15,500	62,000	.030833	.003166	.....	.....	
16,000	64,000	.034733	.003900	.....	.....	
16,500	66,000	.040000	.005267	.....	.....	
17,000	68,000	.045667	.005667	.....	.....	
17,500	70,000	.052000	.006333	.....	.....	
18,000	72,000	.061667	.009667	.....	.....	
18,500	74,000	.0733	.011633	.....	.....	
19,000	76,000	.1000	.0267	.....	.....	
19,250	77,000	.1467	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,000
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2933
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		".95 from neck
Character of broken surface		silky
Elongation of inch sections		".46", ".19, ".14

No. 2184.

Marks, $\frac{8\ T_{12}}{M\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0	.....	
9,000	36,000	.001133	0.	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001267	.000034	0.	.....	
10,250	41,000	.001333	.000066	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	Elastic limit.
11,000	44,000	.012133	.010733	.....	.....	
11,250	45,000	.012633	.000500	.....	.....	
11,500	46,000	.013233	.000600	.....	.....	
11,750	47,000	.014000	.000767	.....	.....	
12,000	48,000	.015100	.001100	.....	.....	
12,250	49,000	.016667	.001567	.....	.....	
12,500	50,000	.018067	.001400	.....	.....	
12,750	51,000	.019667	.001600	.....	.....	
13,000	52,000	.020867	.001200	.....	.....	
13,250	53,000	.022000	.001133	.....	.....	
13,500	54,000	.023867	.001867	.....	.....	
13,750	55,000	.025500	.001633	.....	.....	
14,000	56,000	.027333	.001833	.....	.....	
14,250	57,000	.029000	.001667	.....	.....	
14,500	58,000	.030833	.001833	.....	.....	
14,750	59,000	.032667	.001834	.....	.....	
15,000	60,000	.034667	.002000	.....	.....	
15,500	62,000	.039167	.004500	.....	.....	
16,000	64,000	.043733	.004566	.....	.....	
16,500	66,000	.050000	.006267	.....	.....	
17,000	68,000	.056667	.006667	.....	.....	
17,500	70,000	.0667	.010033	.....	.....	
18,000	72,000	.0800	.0133	.....	.....	
18,500	74,000	.1000	.0200	.....	.....	
19,000	76,000	.1300	.0300	.....	.....	
19,200	76,800	.1733	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,800
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		".40", ".21, ".16

No. 2185.

Marks, $\frac{8\,T_{13}}{M\,T_5\,O}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	—.000033	—.000033	
2,500	10,000	.000233	.000133	—.000033	0.	
3,750	15,000	.000400	.000167	—.000033	0.	
5,000	20,000	.000567	.000167	—.000033	0.	
6,250	25,000	.000733	.000166	—.000033	0.	
7,500	30,000	.000900	.000167	—.000033	0.	
8,750	35,000	.001033	.000133	—.000033	0.	
9,000	36,000	.001100	.000067	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001200	.000033	.....	.....	
10,000	40,000	.001233	.000033	.....	.....	
10,250	41,000	.001267	.000034	.....	.....	Elastic limit.
10,500	42,000	.005267	.004000	.....	.....	
10,750	43,000	.006500	.001233	.....	.....	
11,000	44,000	.008367	.001867	.....	.....	
11,250	45,000	.009433	.001066	.....	.....	
11,500	46,000	.010533	.001100	.....	.....	
11,750	47,000	.011400	.000867	.....	.....	
12,000	48,000	.012800	.001400	.....	.....	
12,250	49,000	.013733	.000933	.....	.....	
12,500	50,000	.014967	.001234	.....	.....	
12,750	51,000	.016200	.001233	.....	.....	
13,000	52,000	.017400	.001200	.....	.....	
13,250	53,000	.018633	.001233	.....	.....	
13,500	54,000	.020000	.001367	.....	.....	
13,750	55,000	.021167	.001167	.....	.....	
14,000	56,000	.022533	.001366	.....	.....	
14,250	57,000	.024067	.001534	.....	.....	
14,500	58,000	.026000	.001933	.....	.....	
14,750	59,000	.027400	.001400	.....	.....	
15,000	60,000	.029333	.001933	.....	.....	
15,500	62,000	.033000	.003667	.....	.....	
16,000	64,000	.037067	.004067	.....	.....	
16,500	66,000	.042667	.005600	.....	.....	
17,000	68,000	.048333	.005666	.....	.....	
17,500	70,000	.055500	.007167	.....	.....	
18,000	72,000	.064000	.008500	.....	.....	
18,500	74,000	.0767	.0127	.....	.....	
19,000	76,000	.1000	.0233	.....	.....	
19,460	77,840	.1467	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,840
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do ..	.001267
Reduction in diameter at point of rupture	do...	.185
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		″.70 from neck
Character of broken surface		silky
Elongation of inch sections		″.43*, ″.15, ″.12

No. 2186.

Marks, $\frac{8\ T_{13}}{M\ T_6\ M}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	
10,000	40,000	.001333	.000033	0.	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001467	.000067	.....	.....	
11,000	44,000	.001500	.000033	.....	.....	
11,250	45,000	.001533	.000033	.....	.....	
11,500	46,000	.001633	.000100	.....	.....	Elastic limit.
11,700	47,000	.003167	.001534	.....	.....	
12,000	48,000	.007067	.003900	.....	.....	
12,250	49,000	.008167	.001100	.....	.....	
12,500	50,000	.009667	.001500	.....	.....	
12,750	51,000	.010267	.000600	.....	.....	
13,000	52,000	.011333	.001066	.....	.....	
13,250	53,000	.012333	.001000	.....	.....	
13,500	54,000	.013533	.001200	.....	.....	
13,750	55,000	.014667	.001134	.....	.....	
14,000	56,000	.016000	.001333	.....	.....	
14,250	57,000	.017100	.001100	.....	.....	
14,500	58,000	.018667	.001567	.....	.....	
14,750	59,000	.019833	.001166	.....	.....	
15,000	60,000	.021500	.001667	.....	.....	
15,700	62,000	.025333	.003833	.....	.....	
16,000	64,000	.028167	.002834	.....	.....	
16,500	66,000	.032167	.004000	.....	.....	
17,000	68,000	.036333	.004166	.....	.....	
17,500	70,000	.041333	.005000	.....	.....	
18,000	72,000	.047667	.006334	.....	.....	
18,500	74,000	.055500	.007833	.....	.....	
19,000	76,000	.064667	.009167	.....	.....	
19,500	78,000	.0833	.018633	.....	.....	
20,000	80,000	.1167	.0334	.....	.....	
20,100	80,400	.1533	.0366	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,400
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.2467
Elongation per inch under strain at elastic limit	do...	.001633
Reduction in diameter at point of rupture	do...	.165
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		".05 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".17, ".41*, ".16

New Tube No. 15.

No. 2350.

Marks, $\frac{8\,T_{15}}{B\,T_{8}\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,200	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000533	.000133	0.	.....	
6,250	25,000	.000700	.000167	0.	.....	
7,500	30,000	.000900	.000200	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001233	.000160	0.	.....	
10,250	41,000	.001267	.000034	.....	.....	
10,500	42,000	.001300	.000033	.....	.....	
10,750	43,000	.001300	0.	.....	.....	Elastic limit.
11,000	44,000	.013433	.012133	.....	.....	
11,250	45,000	.014167	.000734	.....	.....	
11,500	46,000	.015500	.001333	.....	.....	
11,750	47,000	.016833	.001333	.....	.....	
12,000	48,000	.018600	.001767	.....	.....	
12,250	49,000	.019767	.001167	.....	.....	
12,500	50,000	.021800	.002033	.....	.....	
13,000	52,000	.025767	.003967	.....	.....	
13,500	54,000	.030000	.004233	.....	.....	
14,000	56,000	.034667	.004667	.....	.....	
14,500	58,000	.040000	.005333	.....	.....	
15,000	60,000	.046333	.006333	.....	.....	
15,500	62,000	.054500	.008167	.....	.....	
16,000	64,000	.063000	.008500	.....	.....	
16,500	66,000	.0767	.0137	.....	.....	
17,000	68,000	.0967	.0200	.....	.....	
17,500	70,000	.1500	.0533	.....	.....	
17,580	70,320	.1800	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	70,320
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.3000
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.204
Reduction in area after rupture, per centum of original section		59.3
Position of rupture		1″.25 frrom neck
Character of broken surface		silky
Elongation of inch section		″.17, ″.48°, ″.25

No. 2351.

Marks, $\frac{8\,T_{15}}{B\,T_9\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001267	.000167	0.	.....	
11,250	45,000	.001467	.000200	.000033	.000033	
11,500	46,000	.001500 .016867	.000033 .015367	.....	.....	Elastic limit.
11,750	47,000	.017467	.000600	.....	.....	
12,000	48,000	.018733	.001266	.....	.....	
12,250	49,000	.020000	.001267	.....	.....	
12,500	50,000	.022333	.002333	.....	.....	
13,000	52,000	.025833	.003500	.....	.....	
13,500	54,000	.029833	.004000	.....	.....	
14,000	56,000	.034500	.004667	.....	.....	
14,500	58,000	.039333	.004833	.....	.....	
15,000	60,000	.045333	.006000	.....	.....	
15,500	62,000	.053333	.008000	.....	.....	
16,000	64,000	.060667	.007334	.....	.....	
16,500	66,000	.0733	.012633	.....	.....	
17,000	68,000	.0933	.0200	.....	.....	
17,500	70,000	.1200	.0267	.....	.....	
17,800	71,200	.1867	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	71,200
Elastic limit per square inch of original section	do	46,000
Elongation per inch after rupture	inch	0.2867
Elongation per inch under strain at elastic limit	do	.001500
Reduction in diameter at point of rupture	do	.204
Reduction in area after rupture, per centum of original section		59.3
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		″.18, ″.50*, ″.18

No. 2352.

Marks, $_{B}{}^{8}T_{10}{}^{16}M$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000333	.000200	0.		
3,750	15,000	.000467	.000134	0.		
5,000	20,000	.000633	.000166	0.		
6,250	25,000	.000800	.000167	0.		
7,500	30,000	.000967	.000167	0.		
8,750	35,000	.001133	.000166	0.		
10,000	40,000	.001333 .006167	.000200 .004834	.000067	.000067	Elastic limit.
10,250	41,000	.011333	.005166			
10,500	42,000	.012333	.001000			
10,750	43,000	.013167	.000834			
11,000	44,000	.014667	.001500			
11,250	45,000	.015833	.001166			
11,500	46,000	.017533	.001700			
11,750	47,000	.019333	.001800			
12,000	48,000	.020667	.001334			
12,250	49,000	.022333	.001666			
12,500	50,000	.024367	.002034			
13,000	52,000	.028167	.003800			
13,500	54,000	.032167	.004000			
14,000	56,000	.038167	.006000			
14,500	58,000	.043333	.005166			
15,000	60,000	.050000	.006667			
15,500	62,000	.057667	.007677			
16,000	64,000	.068333	.010666			
16,500	66,000	.0867	.0184			
17,000	68,000	.1067	.0200			
17,500	70,000	.1633	.0566			
17,550	70,200	.2067	.0434			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	70,200
Elastic limit per square inch of original section	do	40,000
Elongation per inch after rupture	inch	0.3067
Elongation per inch under strain at elastic limit	do	.001333
Reduction in diameter at point of rupture	do	.194
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		1″.50 from neck
Character of broken surface		silky
Elongation of inch sections		″.18, ″.49, ″.35

No. 2353.

Marks, $\frac{S\ T_{15}}{M\ T_{5}\ I}$
Diameter. ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	
10,250	41,000	.001267	.000034	.....	.....	Elastic limit.
10,500	42,000	.001400	.000133	.....	.....	
10,750	43,000	.001533	.000133	.....	.....	
11,000	44,000	.012333	.010800	.....	.....	
11,250	45,000	.012833	.000500	.....	.....	
11,500	46,000	.014000	.001167	.....	.....	
11,750	47,000	.014900	.000900	.....	.....	
12,000	48,000	.016367	.001467	.....	.....	
12,250	49,000	.017500	.001133	.....	.....	
12,500	50,000	.019067	.001567	.....	.....	
13,000	52,000	.022000	.002933	.....	.....	
13,500	54,000	.024667	.002667	.....	.....	
14,000	56,000	.028167	.003500	.....	.....	
14,500	58,000	.032667	.004500	.....	.....	
15,000	60,000	.037667	.005000	.....	.....	
15,500	62,000	.042833	.005166	.....	.....	
16,000	64,000	.048000	.005167	.....	.....	
16,500	66,000	.055167	.007167	.....	.....	
17,000	68,000	.063333	.008166	.....	.....	
17,500	70,000	.0733	.009967	.....	.....	
18,000	72,000	.0933	.0200	.....	.....	
18,500	74,000	.1200	.0267	.....	.....	
18,790	75,160	.1767	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,160
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2933
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.194
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		1″.50 from neck
Character of broken surface		silky; opened a crack in stem near the point of rupture
Elongation of inch sections		″.21, ″.42, ″.25

No. 2354.

Marks, $\frac{8\ T_{15}}{M\ T_9\ O}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000867	.000234	0.	.....	
7,500	30,000	.001000	.000133	0.	.....	
8,750	35,000	.001133	.000133	0.	.....	
10,000	40,000	.001367	.000234	.000033	.000033	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001467	.000067	.....	.....	
10,750	43,000	.001467	0.	.....	.....	Elastic limit.
11,000	44,000	.001567	.000100	.....	.....	
11,250	45,000	.010667	.009100	.....	.....	
11,500	46,000	.011667	.001000	.....	.....	
11,750	47,000	.012367	.000700	.....	.....	
12,000	48,000	.013400	.001033	.....	.....	
12,250	49,000	.015033	.001633	.....	.....	
12,500	50,000	.016667	.001634	.....	.....	
13,000	52,000	.019167	.002500	.....	.....	
13,500	54,000	.022333	.003166	.....	.....	
14,000	56,000	.025167	.002834	.....	.....	
14,500	58,000	.028833	.003666	.....	.....	
15,000	60,000	.032500	.003667	.....	.....	
15,500	62,000	.037200	.004700	.....	.....	
16,000	64,000	.042333	.005133	.....	.....	
16,500	66,000	.048333	.006000	.....	.....	
17,000	68,000	.055500	.007167	.....	.....	
17,500	70,000	.066000	.010500	.....	.....	
18,000	72,000	.0767	.0107	.....	.....	
18,500	74,000	.0933	.0166	.....	.....	
19,000	76,000	.1367	.0434	.....	.....	
19,100	76,400	.1667	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,400
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do ..	.195
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		1″.36 from neck
Character of broken surface		silky
Elongation of inch sections		″.14, ″.43, ″.20

No. 2355.

Marks, $\frac{8\ T_{16}}{M\ T_{16}\ M}$
Diameter, $\frac{9}{16}$".564.
Sectional area, .25 square inch.

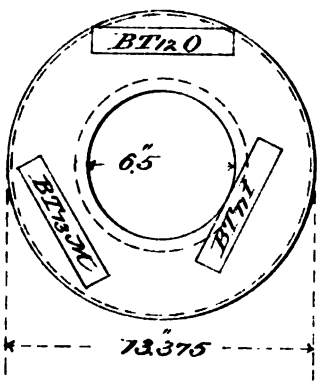
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000467	.000200	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,500	38,000	.001233	.000100	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	Elastic limit.
10,000	40,000	.011667	.010367	.....	.....	
10,250	41,000	.012033	.000366	.....	.....	
10,500	42,000	.012833	.000800	.....	.....	
10,750	43,000	.013833	.001000	.....	.....	
11,000	44,000	.015667	.001834	.....	.....	
11,250	45,000	.017000	.001333	.....	.....	
11,500	46,000	.018333	.001333	.....	.....	
11,750	47,000	.019333	.001000	.....	.....	
12,000	48,000	.021000	.001667	.....	.....	
12,250	49,000	.022667	.001667	.....	.....	
12,500	50,000	.024333	.001666	.....	.....	
13,000	52,000	.027667	.003334	.....	.....	
13,500	54,000	.031667	.004000	.....	.....	
14,000	56,000	.036000	.004333	.....	.....	
14,500	58,000	.040733	.004733	.....	.....	
15,000	60,000	.046000	.005267	.....	.....	
15,500	62,000	.053333	.007333	.....	.....	
16,000	64,000	.063000	.009667	.....	.....	
16,500	66,000	.0733	.0103	.....	.....	
17,000	68,000	.0867	.0134	.....	.....	
17,500	70,000	.1033	.0166	.....	.....	
18,000	72,000	.1700	.0667	.....	.....	Tensile strength.

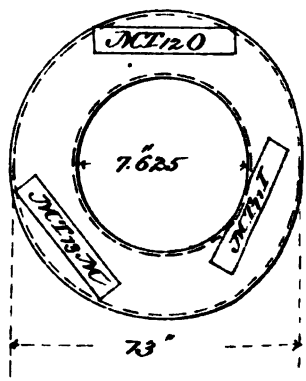
General summary.

Tensile strength per square inch of original section	pounds..	72,000
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2733
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		".20, ".24, .".38*

New Tube No. 75 8" converted Rifle

Additional specimens





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No. 2618.

Marks, $^{8\ T_{18}}_{B\ T_{11}\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000600	.000200	0.	.....	
6,250	25,000	.000733	.000133	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001267	.000200	.....	.....	
10,250	41,000	.001333	.000066	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	
10,750	43,000	.001433	.000066	.....	.....	Elastic limit.
11,000	44,000	.002833	.001400	.....	.....	
11,250	45,000	.004000	.001167	.....	.....	
11,500	46,000	.005667	.001667	.....	.....	
11,750	47,000	.006667	.001000	.....	.....	
12,000	48,000	.007833	.001166	.....	.....	
12,250	49,000	.008700	.000867	.....	.....	
12,500	50,000	.010033	.001333	.....	.....	
13,000	52,000	.012500	.002467	.....	.....	
13,500	54,000	.014933	.002433	.....	.....	
14,000	56,000	.017300	.002367	.....	.....	
14,500	58,000	.020400	.003100	.....	.....	
15,000	60,000	.023000	.002600	.....	.....	
15,500	62,000	.026667	.003667	.....	.....	
16,000	64,000	.029367	.002700	.....	.....	
16,500	66,000	.033067	.003700	.....	.....	
17,000	68,000	.037667	.004600	.....	.....	
17,500	70,000	.0400	.002333	.....	.....	
18,000	72,000	.0500	.0100	.....	.....	
18,500	74,000	.0567	.0067	.....	.....	
19,000	76,000	.0667	.0100	.....	.....	
19,500	78,000	.0733	.0066	.....	.....	
20,000	80,000	.1033	.0300	.....	.....	
20,180	80,720	.1467	.0434	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,720
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2200
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1 ″.20 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		″.30, ″.23, ″.13

No. 2619.

Marks, $\frac{8\,T_{15}}{B\,T_{12}\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001133	.000200	0.	.....	
10,000	40,000	.001300	.000167	.....	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	Elastic limit.
10,750	43,000	.001467	.000100	.....	.....	
11,000	44,000	.003333	.001866	.....	.....	
11,250	45,000	.004867	.001534	.....	.....	
11,500	46,000	.006167	.001300	.....	.....	
11,750	47,000	.007000	.000833	.....	.....	
12,000	48,000	.008167	.001167	.....	.....	
12,250	49,000	.009500	.001333	.....	.....	
12,500	50,000	.010333	.000833	.....	.....	
13,000	52,000	.012700	.002367	.....	.....	
13,500	54,000	.014667	.001967	.....	.....	
14,000	56,000	.016900	.002233	.....	.....	
14,500	58,000	.019767	.002867	.....	.....	
15,000	60,000	.022667	.002900	.....	.....	
15,500	62,000	.025333	.002666	.....	.....	
16,000	64,000	.028467	.003134	.....	.....	
16,500	66,000	.032000	.003533	.....	.....	
17,000	68,000	.036167	.004167	.....	.....	
17,500	70,000	.040867	.004700	.....	.....	
18,000	72,000	.0467	.005833	.....	.....	
18,500	74,000	.0533	.0066	.....	.....	
19,000	76,000	.0633	.0100	.....	.....	
19,500	78,000	.0700	.0067	.....	.....	
20,000	80,000	.0900	.0200	.....	.....	
20,460	81,840	.1500	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,840
Elastic limit per square inch of original section	do ..	42,000
Elongation per inch after rupture	inch .	0.2233
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do ..	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		″.10, ″.42*, ″.15

No. 2620.

Marks, $\frac{8\,T_{15}}{B\,T_{13}\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000767	.000134	0.	.....	
7,500	30,000	.000967	.000200	0.	.....	
8,750	35,000	.001100	.000133	0.	.....	
10,000	40,000	.001333	.000233	.....	.....	
10,250	41,000	.001400	.000067	.....	.....	
10,500	42,000	.001467	.000067	.....	.....	Elastic limit.
10,750	43,000	.001833	.000366	.....	.....	
11,000	44,000	.003700	.001867	.....	.....	
11,250	45,000	.004667	.000967	.....	.....	
11,500	46,000	.006000	.001333	.....	.....	
11,750	47,000	.007033	.001033	.....	.....	
12,000	48,000	.008167	.001134	.....	.....	
12,250	49,000	.009333	.001166	.....	.....	
12,500	50,000	.010433	.001100	.....	.....	
13,000	52,000	.013000	.002567	.....	.....	
13,500	54,000	.015000	.002000	.....	.....	
14,000	56,000	.017367	.002367	.....	.....	
14,500	58,000	.020200	.002833	.....	.....	
15,000	60,000	.023000	.002800	.....	.....	
15,500	62,000	.026667	.003667	.....	.....	
16,000	64,000	.030000	.003333	.....	.....	
16,500	66,000	.034000	.004000	.....	.....	
17,000	68,000	.038333	.004333	.....	.....	
17,500	70,000	.0400	.001667	.....	.....	
18,000	72,000	.0500	.0100	.....	.....	
18,500	74,000	.0567	.0067	.....	.....	
19,000	76,000	.0667	.0100	.....	.....	
19,500	78,000	.0767	.0100	.....	.....	
20,000	80,000	.1033	.0266	.....	.....	
20,190	80,760	.1333	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	80,760
Elastic limit per square inch of original section	do	42,000
Elongation per inch after rupture	inch	0.2033
Elongation per inch under strain at elastic limit	do	.001467
Reduction in diameter at point of rupture	do	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		″.90 from neck
Character of broken surface		silky
Elongation of inch sections		″.08, ″.15, ″.38*

No. 2621.

Marks, $\frac{S\ T_{16}}{M\ T_{11}\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000600	.000200	0.	.....	
6,250	25,000	.000733	.000133	0.	.....	
7,500	30,000	.000933	.000200	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001300	.000200	0.	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	
11,000	44,000	.001467	.000067	.....	.....	
11,250	45,000	.001533	.000066	.....	.....	Elastic limit.
11,500	46,000	.001700	.000167	.....	.....	
11,750	47,000	.001900	.000200	.....	.....	
12,000	48,000	.002467	.000567	.....	.....	
12,250	49,000	.003333	.000866	.....	.....	
12,500	50,000	.004667	.001334	.....	.....	
13,000	52,000	.007167	.002500	.....	.....	
13,500	54,000	.009167	.002000	.....	.....	
14,000	56,000	.011267	.002100	.....	.....	
14,500	58,000	.013433	.002166	.....	.....	
15,000	60,000	.015667	.002234	.....	.....	
15,500	62,000	.018000	.002333	.....	.....	
16,000	64,000	.020500	.002500	.....	.....	
16,500	66,000	.023167	.002667	.....	.....	
17,000	68,000	.026000	.002833	.....	.....	
17,500	70,000	.029167	.003167	.....	.....	
18,000	72,000	.032500	.003333	.....	.....	
18,500	74,000	.036233	.003733	.....	.....	
19,000	76,000	.040500	.004267	.....	.....	
19,500	78,000	.0433	.0028	.....	.....	
20,000	80,000	.0533	.0100	.....	.....	
20,500	82,000	.0633	.0100	.....	.....	
21,000	84,000	.0700	.0067	.....	.....	
21,500	86,000	.0900	.0200	.....	.....	
21,920	87,680	.1367	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,680
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch.	0.2233
Elongation per inch under strain at elastic limit	do...	.001533
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		".85 from neck
Character of broken surface		silky
Elongation of inch sections		".36", ".13, ".18

No. 2622.

Marks, $\frac{S\ T_1^6}{M\ T_1^2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000600	.000133	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001300	.000200	0.	.....	
11,250	45,000	.001533	.000233	.....	.....	
11,500	46,000	.001567	.000034	.....	.....	
11,750	47,000	.001600	.000033	.....	.....	Elastic limit.
12,000	48,000	.002000	.000400	.....	.....	
12,250	49,000	.002833	.000833	.....	.....	
12,500	50,000	.003433	.000600	.....	.....	
13,000	52,000	.005333	.001900	.....	.....	
13,500	54,000	.007667	.002334	.....	.....	
14,000	56,000	.009833	.002166	.....	.....	
14,500	58,000	.012000	.002167	.....	.....	
15,000	60,000	.014000	.002000	.....	.....	
15,500	62,000	.016333	.002333	.....	.....	
16,000	64,000	.018667	.002334	.....	.....	
16,500	66,000	.021000	.002333	.....	.....	
17,000	68,000	.023733	.002733	.....	.....	
17,500	70,000	.026667	.002934	.....	.....	
18,000	72,000	.030667	.004000	.....	.....	
18,500	74,000	.035000	.004333	.....	.....	
19,000	76,000	.039000	.004000	.....	.....	
19,500	78,000	.043333	.004333	.....	.....	
20,000	80,000	.0467	.003367	.....	.....	
20,500	82,000	.0567	.0100	.....	.....	
21,000	84,000	.0633	.0066	.....	.....	
21,500	86,000	.0767	.0134	.....	.....	
21,980	87,920	.1067	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,920
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1833
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1".10 from neck
Character of broken surface		silky
Elongation of inch sections		".07, ".14, ".34*

No. 2623.

Marks, $\frac{8\ T_{15}}{M\ T_{15}\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000700	.000200	0.	.....	
6,250	25,000	.000867	.000167	0.	.....	
7,500	30,000	.001033	.000166	0.	.....	
8,750	35,000	.001200	.000167	0.	.....	
10,000	40,000	.001400	.000200	.000097	.000067	
10,250	41,000	.001467	.000067	.....	.....	
10,500	42,000	.001533	.000066	.....	.....	
10,750	43,000	.001600	.000067	.....	.....	
11,000	44,000	.001667	.000067	.....	.....	
11,250	45,000	.001700	.000033	.....	.....	Elastic limit.
11,500	46,000	.001833	.000133	.....	.....	
11,750	47,000	.002033	.000200	.....	.....	
12,000	48,000	.002967	.000934	.....	.....	
12,250	49,000	.003667	.000700	.....	.....	
12,500	50,000	.005267	.001600	.....	.....	
13,000	52,000	.007100	.001833	.....	.....	
13,500	54,000	.010000	.002900	.....	.....	
14,000	56,000	.012000	.002000	.....	.....	
14,500	58,000	.014100	.002100	.....	.....	
15,000	60,000	.016333	.002233	.....	.....	
15,500	62,000	.018833	.002500	.....	.....	
16,000	64,000	.021167	.002334	.....	.....	
16,500	66,000	.024000	.002833	.....	.....	
17,000	68,000	.027333	.003333	.....	.....	
17,500	70,000	.030000	.002667	.....	.....	
18,000	72,000	.034000	.004000	.....	.....	
18,500	74,000	.038200	.004200	.....	.....	
19,000	76,000	.043067	.004867	.....	.....	
19,500	78,000	.0467	.003633	.....	.....	
20,000	80,000	.0567	.0100	.....	.....	
20,500	82,000	.0667	.0100	.....	.....	
21,000	84,000	.0767	.0100	.....	.....	
21,500	86,000	.1033	.0266	.....	.....	
21,520	86,080	.1267	.0234	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,080
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.1933
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1″.50 from neck
Character of broken surface		silky
Elongation of inch sections		″.10, ″.34, ″.1

NEW TUBE NO. 16.

No. 2365.

Marks, $\frac{S\ T_{16}}{B\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000567	.000134	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,700	35,000	.001067	.000167	0.	.....	
9,500	38,000	.001233	.000166	.....	.....	Elastic limit.
9,750	39,000	.001300	.000067	.....	.....	
10,000	40,000	.006000	.004700	.....	.....	
10,250	41,000	.006667	.000667	.....	.....	
10,500	42,000	.007833	.001166	.....	.....	
10,750	43,000	.008800	.000967	.....	.....	
11,000	44,000	.010200	.001400	.....	.....	
11,250	45,000	.011500	.001300	.....	.....	
11,500	46,000	.012500	.001000	.....	.....	
11,750	47,000	.013733	.001233	.....	.....	
12,000	48,000	.015033	.001300	.....	.....	
12,250	49,000	.016500	.001467	.....	.....	
12,500	50,000	.018167	.001667	.....	.....	
13,000	52,000	.021400	.003233	.....	.....	
13,500	54,000	.025000	.003600	.....	.....	
14,000	56,000	.028367	.003367	.....	.....	
14,500	58,000	.032500	.004133	.....	.....	
15,000	60,000	.034400	.001900	.....	.....	
15,500	62,000	.043333	.008933	.....	.....	
16,000	64,000	.050667	.007334	.....	.....	
16,500	66,000	.059333	.008666	.....	.....	
17,000	68,000	.068000	.008667	.....	.....	
17,500	70,000	.0933	.0253	.....	.....	
18,000	72,000 {	.1400	.0467 {	.....	.....	Tensile strength.
	{	.1667	.0267 {			

General summary.

Tensile strength per square inch of original section	pounds..	72,000
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.1933
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do ..	.084
Reduction in area after rupture, per centum of original section		27.6
Position of rupture		1".65 from neck
Character of broken surface, granular; radiating from a dull spot at the circumference; opened small surface cracks in stem.		
Elongation of inch sections		".16, ".28*, ".14

No. 2366.

Marks, $\frac{8\ T_{16}}{B\ T_8\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	—.000033	—.000033	
2,500	10,000	.000267	.000167	—.000033	.....	
3,750	15,000	.000367	.000100	—.000067	0.	
5,000	20,000	.000500	.000133	—.000067	—.000034	
6,250	25,000	.000633	.000133	—.000067	0.	
7,500	30,000	.000800	.000167	—.000067	0.	
8,750	35,000	.000967	.000167	—.000067	0.	
9,000	36,000	.001000	.000033	.....	0.	
9,250	37,000	.001067	.000067	.....	.....	
9,500	38,000	.001133	.000066	.....	.....	Elastic limit.
9,750	39,000	.001500	.000367	.....	.....	
10,000	40,000	.003400	.001900	.....	.....	
10,250	41,000	.005100	.001700	.....	.....	
10,500	42,000	.006667	.001567	.....	.....	
10,750	43,000	.007333	.000666	.....	.....	
11,000	44,000	.008500	.001167	.....	.....	
11,250	45,000	.009500	.001000	.....	.....	
11,500	46,000	.010500	.001000	.....	.....	
11,750	47,000	.011567	.001067	.....	.....	
12,000	48,000	.012700	.001133	.....	.....	
12,250	49,000	.013733	.001033	.....	.....	
12,500	50,000	.015100	.001367	.....	.....	
13,000	52,000	.018167	.003067	.....	.....	
13,500	54,000	.021000	.002833	.....	.....	
14,000	56,000	.023733	.002733	.....	.....	
14,500	58,000	.027000	.003267	.....	.....	
15,000	60,000	.030667	.003667	.....	.....	
15,500	62,000	.034000	.003333	.....	.....	
16,000	64,000	.039333	.005333	.....	.....	
16,500	66,000	.044867	.005534	.....	.....	
17,000	68,000	.052000	.007133	.....	.....	
17,500	70,000	.060000	.008000	.....	.....	
18,000	72,000	.0733	.0133	.....	.....	
18,500	74,000	.0900	.0167	.....	.....	
19,000	76,000	.1367	.0467	.....	.....	
19,030	76,120	.1600	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,120
Elastic limit per square inch of original section	do ..	38,000
Elongation per inch after rupture	inch..	0.2233
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		26.4
Position of rupture		1 inch from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".30", ".22, ".14

No. 2367.

Marks, $\frac{S\ T_5}{B\ T_5\ M}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive Elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001233	.000133	0.	.....	Elastic limit.
10,250	41,000	.001367	.000134	.....	.....	
		.001833	.000466	.....	.....	
10,500	42,000	.003067	.001234	.....	.....	
10,750	43,000	.006067	.003000	.....	.....	
11,000	44,000	.007333	.001266	.....	.....	
11,250	45,000	.008333	.001000	.....	.....	
11,500	46,000	.009500	.001167	.....	.....	
11,750	47,000	.010400	.000900	.....	.....	
12,000	48,000	.011733	.001333	.....	.....	
12,250	49,000	.012667	.000934	.....	.....	
12,500	50,000	.014167	.001500	.....	.....	
13,000	52,000	.017067	.002900	.....	.....	
13,500	54,000	.020000	.002933	.....	.....	
14,000	56,000	.023000	.003000	.....	.....	
14,500	58,000	.026333	.003333	.....	.....	
15,000	60,000	.030 00	.003667	.....	.....	
15,500	62,000	.034167	.004167	.....	.....	
16,000	64,000	.039333	.005166	.....	.....	
16,500	66,000	.044667	.005334	.....	.....	
17,000	68,000	.052000	.007333	.....	.....	
17,500	70,000	.061667	.009667	.....	.....	
18,000	72,000	.0733	.011633	.....	.....	
18,500	74,000	.0967	.0234	.....	.....	
18,880	75,520	.1433	.0466	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,520
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2433
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.195
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".43*, ".20, ".13

No. 2368.

Marks, $\frac{S\ T_{16}}{M\ T_4\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000700	.000133	0.	.....	
7,500	30,000	.000900	.000200	0.	.....	
8,750	35,000	.001033	.000133	0.	.....	
9,000	36,000	.001067	.000034	.....	.....	
9,250	37,000	.001100	.000033	.....	.....	
9,500	38,000	.001167	.000067	.....	.....	
9,750	39,000	.001233	.000066	.....	.....	Elastic limit.
10,000	40,000	.001433	.000200	.....	.....	
10,250	41,000	.001667	.000234	.....	.....	
10,500	42,000	.002433	.000766	.....	.....	
10,750	43,000	.003167	.000734	.....	.....	
11,000	44,000	.004733	.001556	.....	.....	
11,250	45,000	.006067	.001334	.....	.....	
11,500	46,000	.007400	.001333	.....	.....	
11,750	47,000	.008667	.001267	.....	.....	
12,000	48,000	.009667	.001000	.....	.....	
12,250	49,000	.010433	.000766	.....	.....	
12,500	50,000	.011833	.001400	.....	.....	
13,000	52,000	.014033	.002200	.....	.....	
13,500	54,000	.017000	.002967	.....	.....	
14,000	56,000	.019667	.002667	.....	.....	
14,500	58,000	.022333	.002666	.....	.....	
15,000	60,000	.025167	.002834	.....	.....	
15,500	62,000	.028833	.003666	.....	.....	
16,000	64,000	.032667	.003834	.....	.....	
16,500	66,000	.036833	.004166	.....	.....	
17,000	68,000	.041867	.005034	.....	.....	
17,500	70,000	.048833	.006966	.....	.....	
18,000	72,000	.056667	.009834	.....	.....	
18,500	74,000	.072000	.013333	.....	.....	
19,000	76,000	.0900	.0180	.....	.....	
19,420	77,680	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section ..... pounds..	77,680
Elastic limit per square inch of original section ..... do...	38,000
Elongation per inch after rupture ..... inch..	0.2833
Elongation per inch under strain at elastic limit ..... do ..	.001233
Reduction in diameter at point of rupture ..... do...	.124
Reduction in area after rupture, per centum of original section	41.9
Position of rupture	1 inch from neck
Character of broken surface	granular, 70 per centum; silky, 30 per centum
Elongation of inch sections	″.35, ″.14, ″.12

No. 2369.

Marks, $\frac{8\ T_{16}}{M\ T_5\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000600	.000133	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001300	.000200	0.	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001433	.000100	.....	.....	Elastic limit.
10,750	43,000	.001633	.000200	.....	.....	
11,000	44,000	.003333	.001700	.....	.....	
11,250	45,000	.005000	.001667	.....	.....	
11,500	46,000	.006200	.001200	.....	.....	
11,750	47,000	.007167	.000967	.....	.....	
12,000	48,000	.007833	.000666	.....	.....	
12,250	49,000	.008500	.000667	.....	.....	
12,500	50,000	.010000	.001500	.....	.....	
13,000	52,000	.012100	.002100	.....	.....	
13,500	54,000	.014667	.002567	.....	.....	
14,000	56,000	.017333	.002666	.....	.....	
14,500	58,000	.019833	.002500	.....	.....	
15,000	60,000	.022833	.003000	.....	.....	
15,500	62,000	.025667	.002834	.....	.....	
16,000	64,000	.029167	.003500	.....	.....	
16,500	66,000	.032667	.003500	.....	.....	
17,000	68,000	.036867	.004200	.....	.....	
17,500	70,000	.042167	.005300	.....	.....	
18,000	72,000	.048333	.005166	.....	.....	
18,500	74,000	.057333	.009000	.....	.....	
19,000	76,000	.0667	.009367	.....	.....	
19,500	78,000	.0800	.0133	.....	.....	
20,000	80,000	.1133	.0333	.....	.....	
20,110	80,440	.1467	.0334	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,440
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2467
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		1″.65 from neck
Character of broken surface		silky
Elongation of inch sections		″.15, ″.43*, ″.16

No. 2370.

Marks, $\frac{8\ T_{16}}{M\ T_8\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

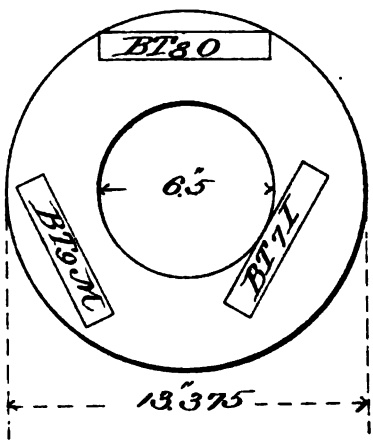
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.		
2,500	10,000	.000233	.000133	0.		
3,750	15,000	.000367	.000134	0.		
5,000	20,000	.000500	.000133	0.		
6,250	25,000	.000633	.000133	0.		
7,500	30,000	.000800	.000167	0.		
8,750	35,000	.000967	.000167	0.		
10,000	40,000	.001133	.000166	0.		Elastic limit.
10,250	41,000	.001267	.000134			
10,500	42,000	.001500	.000233			
10,750	43,000	.002167	.000667			
11,000	44,000	.004133	.001966			
11,250	45,000	.005733	.001600			
11,500	46,000	.006667	.000934			
11,750	47,000	.007700	.001033			
12,000	48,000	.008667	.000967			
12,250	49,000	.009700	.001033			
12,500	50,000	.011000	.001300			
13,000	52,000	.013500	.002500			
13,500	54,000	.015733	.002233			
14,000	56,000	.018333	.002600			
14,500	58,000	.021500	.003167			
15,000	60,000	.024667	.003167			
15,500	62,000	.027700	.003033			
16,000	64,000	.031667	.003967			
16,500	66,000	.036167	.004500			
17,000	68,000	.041333	.005166			
17,500	70,000	.048500	.007167			
18,000	72,000	.056333	.007833			
18,500	74,000	.067833	.011500			
19,000	76,000	.0900	.022167			
19,500	78,000	.1400	.0500			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	78 [illegible]
Elastic limit per square inch of original section	do	40 [illegible]
Elongation per inch after rupture	inch	0 [illegible]
Elongation per inch under strain at elastic limit	do	.0011+
Reduction in diameter at point of rupture	do	.1[illegible]
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″.5 from neck
Character of broken surface		silky; trace of granulation
Elongation of inch sections		″.17, ″.37+, ″.16

New Tube No. 76 8"converted Rifle

Additional specimens



H Ex 31 49 2

No. 2555.

Marks, $_{B}{}^{8}T_{I}{}^{e}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	.....	.....	
10,000	40,000	.001233	.000166	.....	.....	
10,250	41,000	.001300	.000067	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	Elastic limit.
11,000	44,000	.001733	.000333	.....	.....	
11,250	45,000	.002800	.001067	.....	.....	
11,500	46,000	.004067	.001267	.....	.....	
11,750	47,000	.007100	.003033	.....	.....	
12,000	48,000	.008667	.001567	.....	.....	
12,250	49,000	.010333	.001666	.....	.....	
12,500	50,000	.011067	.000734	.....	.....	
13,000	52,000	.013733	.002666	.....	.....	
13,500	54,000	.016733	.003000	.....	.....	
14,000	56,000	.020067	.003334	.....	.....	
14,500	58,000	.023000	.002933	.....	.....	
15,000	60,000	.026533	.003533	.....	.....	
15,500	62,000	.030400	.003867	.....	.....	
16,000	64,000	.034867	.004467	.....	.....	
16,500	66,000	.040000	.005133	.....	.....	
17,000	68,000	.046667	.006667	.....	.....	
17,500	70,000	.0567	.010033	.....	.....	
18,000	72,000	.0667	.0100	.....	.....	
18,500	74,000	.0900	.0233	.....	.....	
19,000	76,000	.1300	.0400	.....	.....	
19,020	76,080	.1467	.0167	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,080
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.1767
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.074
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		1″.50 from neck

Character of broken surface, granular; radiating from a flaky spot at the circumference; opened cracks in surface of stem.

Elongation of inch sections ″.17, ″.23*, ″.18

No. 2556.

Marks, $\overset{8}{B}\overset{T_{16}}{T}O$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	Elastic limit.
10,000	40,000	.001400	.000133	.....	.....	
10,250	41,000	.001567	.000167	.....	.....	
10,500	42,000	.003700	.002133	.....	.....	
10,750	43,000	.004700	.001000	.....	.....	
11,000	44,000	.006500	.001800	.....	.....	
11,250	45,000	.007500	.001000	.....	.....	
11,500	46,000	.008833	.001333	.....	.....	
11,750	47,000	.009767	.000934	.....	.....	
12,000	48,000	.010867	.001100	.....	.....	
12,250	49,000	.011933	.001066	.....	.....	
12,500	50,000	.013367	.001434	.....	.....	
13,000	52,000	.015667	.002300	.....	.....	
13,500	54,000	.018567	.002933	.....	.....	
14,000	56,000	.021500	.002933	.....	.....	
14,500	58,000	.025000	.003500	.....	.....	
15,000	60,000	.028167	.003167	.....	.....	
15,500	62,000	.032000	.003833	.....	.....	
16,000	64,000	.036333	.004333	.....	.....	
16,500	66,000	.040833	.004500	.....	.....	
17,000	68,000	.0500	.009167	.....	.....	
17,500	70,000	.0600	.0100	.....	.....	
18,000	72,000	.0700	.0100	.....	.....	
18,500	74,000	.0800	.0100	.....	.....	
19,000	76,000	.1133	.0333	.....	.....	
19,160	76,640	.1567	.0434	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,640
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2533
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1″.5 from neck
Character of broken surface		silky
Elongation of inch sections		″.18, ″.42, ″.19

No. 2557.

Marks, $\frac{8\,T_{16}}{B\,T_9\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

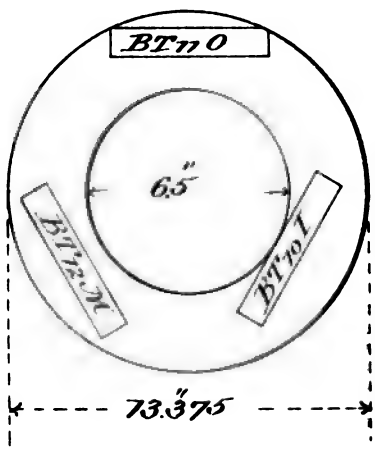
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000800	.000200	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
9,000	36,000	.001200	.000067	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001333	.000066	.....	.....	
10,000	40,000	.001367	.000034	.....	.....	Elastic limit.
10,250	41,000	.001467	.000100	.....	.....	
10,500	42,000	.004667	.003200	.....	.....	
10,750	43,000	.007333	.002666	.....	.....	
11,000	44,000	.008000	.000667	.....	.....	
11,250	45,000	.008800	.000800	.....	.....	
11,500	46,000	.010000	.001200	.....	.....	
11,750	47,000	.010833	.000833	.....	.....	
12,000	48,000	.012233	.001400	.....	.....	
12,250	49,000	.013367	.001134	.....	.....	
12,500	50,000	.014667	.001300	.....	.....	
13,000	52,000	.017067	.002400	.....	.....	
13,500	54,000	.020000	.002933	.....	.....	
14,000	56,000	.023000	.003000	.....	.....	
14,500	58,000	.026667	.003667	.....	.....	
15,000	60,000	.030000	.003333	.....	.....	
15,500	62,000	.034000	.004000	.....	.....	
16,000	64,000	.038667	.004667	.....	.....	
16,500	66,000	.0433	.004633	.....	.....	
17,000	68,000	.0533	.0100	.....	.....	
17,500	70,000	.0633	.0100	.....	.....	
18,000	72,000	.0733	.0100	.....	.....	
18,500	74,000	.0933	.0200	.....	.....	
19,000	76,000	.1267	.0334	.....	.....	
19,080	76,320	.1733	.0466	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,320
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do ..	.001367
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		1″.6 from neck
Character of broken surface		silky
Elongation of inch sections		″.15, ″.40*, ″.17

New Tube No. 16 8″ converted Rifle

Additional specimens



H Ex 31 49 2

No. 2612.

Marks, $^{8\ T_{16}}_{B\ T_{16}\ I}$
Diameter, ".564."
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000233	.000100	0.	.....	
3,750	15,000	.000367	.000134	0.	.....	
5,000	20,000	.000533	.000166	0.	.....	
6,250	25,000	.000700	.000167	0.	.....	
7,500	30,000	.000900	.000200	0.	.....	
8,750	35,000	.001100	.000200	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001267	.000100	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	
10,000	40,000	.001333	.000033	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	
11,000	44,000	.001500	.000067	.....	.....	
11,250	45,000	.001600	.000100	.....	.....	Elastic limit.
11,500	46,000	.002667	.001067	.....	.....	
11,750	47,000	.004033	.001366	.....	.....	
12,000	48,000	.007167	.003134	.....	.....	
12,250	49,000	.008333	.001166	.....	.....	
12,500	50,000	.009667	.001334	.....	.....	
13,000	52,000	.012500	.002833	.....	.....	
13,500	54,000	.015033	.002533	.....	.....	
14,000	56,000	.018333	.003300	.....	.....	
14,500	58,000	.021500	.003167	.....	.....	
15,000	60,000	.024667	.003167	.....	.....	
15,500	62,000	.028267	.003600	.....	.....	
16,000	64,000	.032167	.003900	.....	.....	
16,500	66,000	.037167	.005000	.....	.....	
17,000	68,000	.0400	.002833	.....	.....	
17,500	70,000	.0500	.0100	.....	.....	
18,000	72,000	.0633	.0133	.....	.....	
18,500	74,000	.0700	.0067	.....	.....	
19,000	76,000	.0933	.0233	.....	.....	
19,300	77,200	.1433	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,200
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.194
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		1 inch from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".43*, ".20, ".14

No. 2613.

Marks, $_{B}{}^{8}T_{11}{}^{16}O$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133			
2,500	10,000	.000300	.000167			
3,750	15,000	.000500	.000200			
5,000	20,000	.000667	.000167			
6,250	25,000	.000800	.000133			
7,500	30,000	.001013	.000233			
8,750	35,000	.001233	.000200			
9,000	36,000	.001267	.000034			
9,250	37,000	.001333	.000066			
9,500	38,000	.001400	.000067			Elastic limit.
9,750	39,000	.001733	.000333			
10,000	40,000	.007233	.005500			
10,250	41,000	.007733	.000500			
10,500	42,000	.008667	.000934			
10,750	43,000	.009900	.001233			
11,000	44,000	.010867	.000967			
11,500	46,000	.013167	.002300			
12,000	48,000	.016000	.002833			
12,500	50,000	.018500	.002500			
13,000	52,000	.021167	.002667			
13,500	54,000	.024167	.003000			
14,000	56,000	.027600	.003433			
14,500	58,000	.031067	.003467			
15,000	60,000	.0367	.005633			
15,500	62,000	.0400	.0033			
16,000	64,000	.0500	.0100			
16,500	66,000	.0600	.0100			
17,000	68,000	.0700	.0100			
17,500	70,000	.0800	.0100			
18,000	72,000	.1000	.0200			
18,500	74,000	.1467	.0467			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,068
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2530
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do..	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″.30 from neck
Character of broken surface		silky
Elongation of inch sections		″.25, ″.35, ″.16

No. 2614.

Marks, $^{8\ T_{16}}_{B\ T_{12}\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

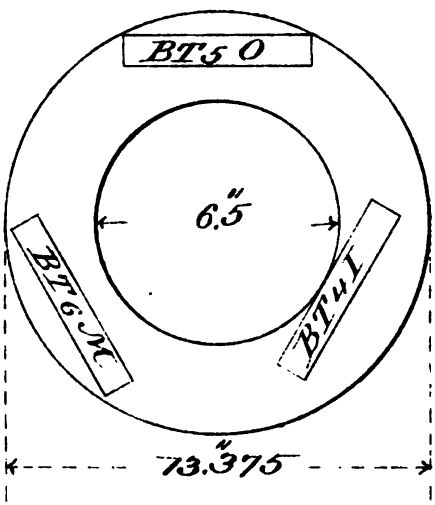
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000733	.000133	0.	.....	
7,500	30,000	.000933	.000200	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001200	.000067	.....	.....	
9,500	38,000.	.001267	.000067	.....	.....	
9,750	39,000	.001333	.000066	.....	.....	Elastic limit.
10,000	40,000	.001600	.000267	.....	.....	
10,250	41,000	.002500	.000900	.....	.....	
10,500	42,000	.005333	.002833	.....	.....	
10,750	43,000	.006667	.001334	.....	.....	
11,000	44,000	.008000	.001333	.....	.....	
11,250	45,000	.009167	.001167	.....	.....	
11,500	46,000	.010100	.000933	.....	.....	
12,000	48,000	.012167	.002067	.....	.....	
12,500	50,000	.014900	.002733	.....	.....	
13,000	52,000	.017667	.002767	.....	.....	
13,500	54,000	.020333	.002666	.....	.....	
14,000	56,000	.023167	.002834	.....	.....	
14,500	58,000	.026833	.003666	.....	.....	
15,000	60,000	.030667	.003834	.....	.....	
15,500	62,000	.034000	.003333	.....	.....	
16,000	64,000	.0400	.0060	.....	.....	
16,500	66,000	.0433	.0033	.....	.....	
17,000	68,000	.0533	.0100	.....	.....	
17,500	70,000	.0633	.0100	.....	.....	
18,000	72,000	.0700	.0067	.....	.....	
18,500	74,000	.0933	.0233	.....	.....	
19,000	76,000	.1567	.0634	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,000
Elastic limit per square inch of original section	do ..	39,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001333
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		1″.05 from neck
Character of broken surface		silky
Elongation of inch sections		″.45*, ″.21, ″.12

Tube No. 18 8" converted Rifle

Additional specimens



H Ex 31 492

No. 997.

Marks, $\frac{8\ T_{12}}{B\ T_4\ I}$
Diameter, $\frac{7}{16}$".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	— .000033	— .000033	
2,500	10,000	.000167	.000100	— .000067	— .000134	
3,750	15,000	.000267	.000100	— .000067	0	
5,000	20,000	.000433	.000166	— .000067	0	
6,250	25,000	.000600	.000167	— .000067	0	
7,500	30,000	.000767	.000167	— .000067	0	
7,750	31,000	.000800	.000033	.....	.....	Elastic limit.
8,000	32,000	.000967	.000167	.....	.....	
8,250	33,000	.004067	.003100	.....	.....	
8,500	34,000	.006000	.001933	.....	.....	
8,750	35,000	.007367	.001367	.000067	.000134	
9,000	36,000	.008367	.001000	.....	.....	
9,250	37,000	.009333	.000966	.....	.....	
9,500	38,000	.010600	.001267	.....	.....	
9,750	39,000	.011500	.000900	.....	.....	
10,000	40,000	.012900	.001400	.010933	.001866	
10,250	41,000	.013733	.000833	.....	.....	
10,500	42,000	.014600	.000867	.....	.....	
10,750	43,000	.015700	.001100	.....	.....	
11,000	44,000	.017300	.001600	.....	.....	
11,250	45,000	.018467	.001167	.....	.....	
11,500	46,000	.019767	.001300	.....	.....	
11,750	47,000	.021667	.001900	.....	.....	
12,000	48,000	.022867	.001200	.....	.....	
12,250	49,000	.024133	.001266	.....	.....	
12,500	50,000	.025867	.001734	.....	.....	
13,000	52,000	.029333	.003466	.....	.....	
13,500	54,000	.033833	.004500	.....	.....	
14,000	56,000	.037833	.004000	.....	.....	
14,500	58,000	.043200	.005367	.....	.....	
15,000	60,000	.048667	.005467	.....	.....	
15,500	62,000	.056667	.008000	.....	.....	
16,000	64,000	.064367	.007700	.....	.....	
16,500	66,000	.0767	.012333	.....	.....	
17,000	68,000	.0900	.0133	.....	.....	
17,500	70,000	.1167	.0267	.....	.....	
17,920	71,680	.1867	.0700	.....	.....	Tensile strength.
15,900	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Tensile strength per square inch of original section	pounds..	71,680
Elastic limit per square inch of original section	do...	31,000
Elongation per inch after rupture	inch..	0.2800
Elongation per inch under strain at elastic limit	do...	.000800
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		¾ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		".25, ".42*, ".19

No. 998.

Marks, $\frac{8\,T_{18}}{B\,T_5\,O}$
Diameter, ″.563.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000677	.000167	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
7,750	31,000	.001000	.000033	.....	.....	
8,000	32,000	.001033	.000033	.....	.....	
8,250	33,000	.001067	.000034	.....	.....	
8,500	34,000	.001133	.000066	.....	.....	
8,750	35,000	.001167	.000034	.000033	.000033	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001267	.000067	.....	.....	Elastic limit.
9,500	38,000	.008300	.007033	.....	.....	
9,750	39,000	.009300	.001000	.....	.....	
10,000	40,000	.010400	.001100	.008767	.008734	
10,250	41,000	.010833	.000433	.....	.....	
10,500	42,000	.011367	.000534	.....	.....	
10,750	43,000	.012600	.001233	.....	.....	
11,000	44,000	.013767	.001167	.....	.....	
11,250	45,000	.014933	.001166	.....	.....	
11,500	46,000	.016167	.001234	.....	.....	
11,750	47,000	.017400	.001233	.....	.....	
12,000	48,000	.018733	.001333	.....	.....	
12,250	49,000	.020000	.001267	.....	.....	
12,500	50,000	.021100	.001100	.....	.....	
13,000	52,000	.024167	.003067	.....	.....	
13,500	54,000	.027267	.003100	.....	.....	
14,000	56,000	.030767	.003500	.....	.....	
14,500	58,000	.034500	.003733	.....	.....	
15,000	60,000	.039000	.004500	.....	.....	
15,500	62,000	.044500	.005500	.....	.....	
16,000	64,000	.050000	.005500	.....	.....	
16,500	66,000	.058000	.008000	.....	.....	
17,000	68,000	.067667	.009667	.....	.....	
17,500	70,000	.0800	.012333	.....	.....	
18,000	72,000	.1000	.0200	.....	.....	
18,500	74,000	.1400	.0400	.....	.....	
18,620	74,480	.1933	.0533	.....	.....	Tensile strength.
17,200	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Tensile strength per square inch of original section ..... pounds .. 74,480
Elastic limit per square inch of original section ..... do ... 37,000
Elongation per inch after rupture ..... inch .. 0.1933
Elongation per inch under strain at elastic limit ..... do ... .001267
Reduction in diameter at point of rupture ..... do ... .103
Reduction in area after rupture, per centum of original section 33.5
Position of rupture ..... at middle of stem
Character of broken surface ..... granular; radiating from a dull spot at the circumference
Elongation of inch sections ..... ″.21, ″.37, ″.19

No. 999.

Marks, $\frac{8\,T_{12}}{B\,T_6\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

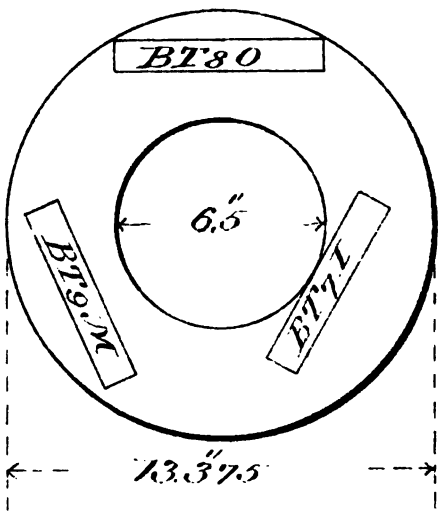
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
7,750	31,000	.000900	0.	.....	.....	
8,000	32,000	.000933	.000033	.....	.....	
8,250	33,000	.000967	.000034	.....	.....	
8,500	34,000	.001000	.000033	.....	.....	Elastic limit.
8,750	35,000	.006500	.005500	.005333	.005333	
9,000	36,000	.007933	.001433	.....	.....	
9,250	37,000	.008600	.000667	.....	.....	
9,500	38,000	.009767	.001167	.....	.....	
9,750	39,000	.010700	.000933	.....	.....	
10,000	40,000	.011800	.001100	.010333	.005000	
10,250	41,000	.012500	.000700	.....	.....	
10,500	42,000	.013600	.001100	.....	.....	
10,750	43,000	.014667	.001067	.....	.....	
11,000	44,000	.016000	.001333	.....	.....	
11,250	45,000	.017167	.001167	.....	.....	
11,500	46,000	.018600	.001433	.....	.....	
11,750	47,000	.020000	.001400	.....	.....	
12,000	48,000	.021167	.001167	.....	.....	
12,250	49,000	.022500	.001333	.....	.....	
12,500	50,000	.024400	.001900	.....	.....	
13,000	52,000	.027333	.002933	.....	.....	
13,500	54,000	.031067	.003734	.....	.....	
14,000	56,000	.035133	.004066	.....	.....	
14,500	58,000	.039500	.004367	.....	.....	
15,000	60,000	.044667	.005167	.....	.....	
15,500	62,000	.050833	.006166	.....	.....	
16,000	64,000	.058333	.007500	.....	.....	
16,500	66,000	.067333	.009000	.....	.....	
17,000	68,000	.0767	.009367	.....	.....	
17,500	70,000	.1000	.0233	.....	.....	
17,980	71,920	.1400	.0400	.....	.....	Tensile strength.
16,600	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Tensile strength per square inch of original section	pounds..	71,920
Elastic limit per square inch of original section	do...	34,000
Elongation per inch after rupture	inch..	0.1467
Elongation per inch under strain at elastic limit	do...	.001000
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		¾ inch from neck
Character of broken surface	granular; radiating from a blow-hole at the circumference	
Elongation of inch sections		″.20*, ″.13, ″.11

Tube No. 18 8" converted Rifle

Additional specimens



H Ex 31 49 2

No. 2125.

Marks, $\frac{S\ T_{14}}{B\ T_{11}}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
7,750	31,000	.001000	.000033	.....	.....	Elastic limit.
8,000	32,000	.004200	.003200	.....	.....	
8,250	33,000	.005900	.001700	.....	.....	
8,500	34,000	.006900	.001000	.....	.....	
8,750	35,000	.007633	.000733	.....	.....	
9,000	36,000	.008667	.001034	.....	.....	
9,250	37,000	.009500	.000833	.....	.....	
9,500	38,000	.010667	.001167	.....	.....	
9,750	39,000	.011667	.001000	.....	.....	
10,000	40,000	.012733	.001066	.....	.....	
10,250	41,000	.013733	.001000	.....	.....	
10,500	42,000	.015100	.001367	.....	.....	
10,750	43,000	.016167	.001067	.....	.....	
11,000	44,000	.017333	.001166	.....	.....	
11,250	45,000	.018567	.001234	.....	.....	
11,500	46,000	.020000	.001433	.....	.....	
11,750	47,000	.021367	.001367	.....	.....	
12,000	48,000	.022767	.001400	.....	.....	
12,250	49,000	.024333	.001566	.....	.....	
12,500	50,000	.026333	.002000	.....	.....	
13,000	52,000	.030000	.003667	.....	.....	
13,500	54,000	.033733	.003733	.....	.....	
14,000	56,000	.038067	.004334	.....	.....	
14,500	58,000	.043167	.005100	.....	.....	
15,000	60,000	.049667	.006500	.....	.....	
15,500	62,000	.057333	.007666	.....	.....	
16,000	64,000	.066500	.009167	.....	.....	
16,500	66,000	.078333	.011833	.....	.....	
17,000	68,000	.0967	.018367	.....	.....	
17,500	70,000	.1300	.0333	.....	.....	
17,710	70,840	.1967	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	70,840
Elastic limit per square inch of original section	do...	31,000
Elongation per inch after rupture	inch..	0.2767
Elongation per inch under strain at elastic limit	do...	.001000
Reduction in diameter at point of rupture	do ..	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		".55 from middle of stem
Character of broken surface		silky; with slight granulation
Elongation of inch sections		".31, ".35*, ".17

No. 2126.

Marks, $\frac{8\ T_{18}}{B\ T_2\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	— .000033	— .000033	
2,500	10,000	.000200	.000100	— .000033	0.	
3,750	15,000	.000433	.000233	— .000033	0.	
5,000	20,000	.000567	.000134	— .000033	0.	
6,250	25,000	.000767	.000200	— .000033	0.	
7,500	30,000	.000900	.000133	— .000033	0.	
7,750	31,000	.000933	.000033	.....	.....	
8,000	32,000	.000967	.000034	.....	.....	
8,250	33,000	.001033	.000066	.....	.....	
8,500	34,000	.001100	.000067	.....	.....	
8,750	35,000	.001167	.000067	.000067	.000100	Elastic limit.
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.008833	.007633	.....	.....	
9,500	38,000	.009800	.000967	.....	.....	
9,750	39,000	.010500	.000700	.....	.....	
10,000	40,000	.011567	.001067	.....	.....	
10,250	41,000	.012333	.000766	.....	.....	
10,500	42,000	.013500	.001167	.....	.....	
10,750	43,000	.014400	.000900	.....	.....	
11,000	44,000	.015700	.001300	.....	.....	
11,250	45,000	.016900	.001200	.....	.....	
11,500	46,000	.018333	.001433	.....	.....	
11,750	47,000	.019333	.001000	.....	.....	
12,000	48,000	.021033	.001700	.....	.....	
12,250	49,000	.022100	.001067	.....	.....	
12,500	50,000	.023733	.001633	.....	.....	
13,000	52,000	.027500	.003767	.....	.....	
13,500	54,000	.030833	.003333	.....	.....	
14,000	56,000	.034567	.003734	.....	.....	
14,500	58,000	.039167	.004600	.....	.....	
15,000	60,000	.044000	.004833	.....	.....	
15,500	62,000	.050000	.006000	.....	.....	
16,000	64,000	.058333	.008333	.....	.....	
16,500	66,000	.0650	.006667	.....	.....	
17,000	68,000	.0783	.0133	.....	.....	
17,500	70,000	.0967	.0184	.....	.....	
18,000	72,000	.1233	.0266	.....	.....	
18,260	73,040	.1900	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	73,040
Elastic limit per square inch of original section	do	35,000
Elongation per inch after rupture	inch	0.3100
Elongation per inch under strain at elastic limit	do	.001167
Reduction in diameter at point of rupture	do	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		½ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.34, ″.46, ″.2

No. 2127.

Marks, $\frac{8\ \text{Tis}}{\text{B T, M}}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001000	.000200	0.	.....	
7,750	31,000	.001033	.000033	.....	.....	
8,000	32,000	.001100	.000067	.....	.....	Elastic limit.
8,250	33,000	.002433	.001333	.....	.....	
8,500	34,000	.007067	.004634	.....	.....	
8,750	35,000	.008067	.001000	.....	.....	
9,000	36,000	.009100	.001033	.....	.....	
9,250	37,000	.010000	.000900	.....	.....	
9,500	38,000	.011000	.001000	.....	.....	
9,750	39,000	.011900	.000900	.....	.....	
10,000	40,000	.013000	.001100	.....	.....	
10,250	41,000	.014033	.001033	.....	.....	
10,500	42,000	.015167	.001134	.....	.....	
10,750	43,000	.016167	.001000	.....	.....	
11,000	44,000	.017667	.001500	.....	.....	
11,250	45,000	.018767	.001100	.....	.....	
11,500	46,000	.020100	.001333	.....	.....	
11,750	47,000	.021500	.001400	.....	.....	
12,000	48,000	.023167	.001667	.....	.....	
12,250	49,000	.024667	.001500	.....	.....	
12,500	50,000	.026533	.001866	.....	.....	
13,000	52,000	.029700	.003167	.....	.....	
13,500	54,000	.033733	.004033	.....	.....	
14,000	56,000	.037667	.003934	.....	.....	
14,500	58,000	.043000	.005333	.....	.....	
15,000	60,000	.049000	.006000	.....	.....	
15,500	62,000	.055333	.006333	.....	.....	
16,000	64,000	.064667	.009334	.....	.....	
16,500	66,000	.075000	.010333	.....	.....	
17,000	68,000	.0900	.0150	.....	.....	
17,500	70,000	.1200	.0300	.....	.....	
17,700	70,800	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	70,800
Elastic limit per square inch of original section	do...	32,000
Elongation per inch after rupture	inch..	0.1433
Elongation per inch under strain at elastic limit	do...	.001100
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		".40 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".18*, ".13, ".12

NEW TUBE No. 18.

No. 2420.

Marks, $\frac{8\ T_{18}}{B\ T_7\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001067	.000100	.....	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	Elastic limit.
9,750	39,000	.001500	.000333	.....	.....	
10,000	40,000	.002667	.001167	.....	.....	
10,250	41,000	.004067	.001400	.....	.....	
10,500	42,000	.008333	.004266	.....	.....	
10,750	43,000	.010333	.002000	.....	.....	
11,000	44,000	.012000	.001667	.....	.....	
11,250	45,000	.012467	.000467	.....	.....	
11,500	46,000	.013067	.000600	.....	.....	
11,750	47,000	.014367	.001300	.....	.....	
12,000	48,000	.016100	.001733	.....	.....	
12,250	49,000	.017500	.001400	.....	.....	
12,500	50,000	.019133	.001633	.....	.....	
13,000	52,000	.021933	.002800	.....	.....	
13,500	54,000	.025833	.003900	.....	.....	
14,000	56,000	.029333	.003500	.....	.....	
14,500	58,000	.033567	.004234	.....	.....	
15,000	60,000	.038667	.005100	.....	.....	
15,500	62,000	.046333	.007666	.....	.....	
16,000	64,000	.053333	.007000	.....	.....	
16,500	66,000	.0633	.009967	.....	.....	
17,000	68,000	.0733	.0100	.....	.....	
17,500	70,000	.0900	.0167	.....	.....	
18,000	72,000	.1233	.0333	.....	.....	
18,140	72,560	.1667	.0434	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,560
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		1″.20 from neck; oblique
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		″.15, ″.25, ″.37

No. 2421.

Marks, $\frac{8\ T_{18}}{B\ T_8 O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	Elastic limit.
9,500	38,000	.001333	.000133	.....	.....	
9,750	39,000	.008000	.000667	.....	.....	
10,000	40,000	.009567	.001567	.....	.....	
10,250	41,000	.009933	.000366	.....	.....	
10,500	42,000	.010700	.000767	.....	.....	
10,750	43,000	.011667	.000967	.....	.....	
11,000	44,000	.012867	.001200	.....	.....	
11,250	45,000	.013833	.000966	.....	.....	
11,500	46,000	.015000	.001167	.....	.....	
11,750	47,000	.016433	.001433	.....	.....	
12,000	48,000	.018000	.001567	.....	.....	
12,250	49,000	.019000	.001000	.....	.....	
12,500	50,000	.020567	.001567	.....	.....	
13,000	52,000	.024000	.003433	.....	.....	
13,500	54,000	.027333	.003333	.....	.....	
14,000	56,000	.030900	.003567	.....	.....	
14,500	58,000	.035667	.004767	.....	.....	
15,000	60,000	.040667	.005000	.....	.....	
15,500	62,000	.046000	.005333	.....	.....	
16,000	64,000	.052700	.006700	.....	.....	
16,500	66,000	.061567	.008867	.....	.....	
17,000	68,000	.0767	.015133	.....	.....	
17,500	70,000	.0967	.0200	.....	.....	
18,000	72,000	.1167	.0200	.....	.....	
18,280	73,120	.1700	.0533	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,120
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2433
Elongation per inch under strain at elastic limit	do...	.001200
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		".65 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".14, ".18, ".41*

No. 2422.

Marks, $\frac{8\ T_{18}}{B\ T,\ M}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001067	.000100	.....	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001267	.000100	.....	.....	
10,000	40,000	.001367	.000100	.....	.....	Elastic limit.
10,250	41,000	.005000	.003633	.....	.....	
10,500	42,000	.007600	.002600	.....	.....	
10,750	43,000	.008367	.000767	.....	.....	
11,000	44,000	.009700	.001333	.....	.....	
11,250	45,000	.010733	.001033	.....	.....	
11,500	46,000	.011867	.001134	.....	.....	
11,750	47,000	.013000	.001133	.....	.....	
12,000	48,000	.014333	.001333	.....	.....	
12,250	49,000	.015667	.001334	.....	.....	
12,500	50,000	.016800	.001133	.....	.....	
13,000	52,000	.019833	.003033	.....	.....	
13,500	54,000	.022667	.002834	.....	.....	
14,000	56,000	.026000	.003333	.....	.....	
14,500	58,000	.030000	.004000	.....	.....	
15,000	60,000	.034000	.004000	.....	.....	
15,500	62,000	.039000	.005000	.....	.....	
16,000	64,000	.045500	.006500	.....	.....	
16,500	66,000	.051000	.005500	.....	.....	
17,000	68,000	.059667	.008667	.....	.....	
17,500	70,000	.0700	.010333	.....	.....	
18,000	72,000	.0900	.0200	.....	.....	
18,500	74,000	.1167	.0267	.....	.....	
18,750	75,000	.1700	.0533	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,000
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		1″.10 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		″.33*, ″.26, ″.13

No. 2423.

Marks, $\frac{8\ T_{18}}{M\ T_4\ I}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000533	.000200	0.	.....	
5,000	20,000	.000700	.000167	0.	.....	
6,250	25,000	.000833	.000133	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001133	.000133	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	Elastic limit.
9,750	39,000	.001400	.000167	.....	.....	
10,000	40,000	.003333	.001933	.....	.....	
10,250	41,000	.005133	.001800	.....	.....	
10,500	42,000	.007500	.001367	.....	.....	
10,750	43,000	.009067	.001567	.....	.....	
11,000	44,000	.010400	.001333	.....	.....	
11,250	45,000	.011433	.001033	.....	.....	
11,500	46,000	.012433	.001000	.....	.....	
11,750	47,000	.013733	.001300	.....	.....	
12,000	48,000	.015000	.001267	.....	.....	
12,250	49,000	.016233	.001233	.....	.....	
12,500	50,000	.017700	.001467	.....	.....	
13,000	52,000	.020500	.002800	.....	.....	
13,500	54,000	.023333	.002833	.....	.....	
14,000	56,000	.027500	.004167	.....	.....	
14,500	58,000	.032000	.004500	.....	.....	
15,000	60,000	.036000	.004000	.....	.....	
15,500	62,000	.041167	.005167	.....	.....	
16,000	64,000	.046000	.004833	.....	.....	
16,500	66,000	.053333	.007333	.....	.....	
17,500	68,000	.062667	.009334	.....	.....	
17,500	70,000	.0767	.014033	.....	.....	
18,000	72,000	.0933	.0166	.....	.....	
18,460	73,840	.1467	.0534	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,840
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.1600
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.065
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		1 inch from neck

Character of broken surface, granular; flaky spot at circumference; opened small cracks in surface of stem.

Elongation of inch sections ..... ″.10, ″.13, ″.25*

No. 2424.

Marks, $\overset{8\ T_{18}}{M\ T_5\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	.....	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	
10,000	40,000	.001333	.000033	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	Elastic limit.
10,500	42,000	.004500	.003133	.....	.....	
10,750	43,000	.008267	.003767	.....	.....	
11,000	44,000	.009000	.000733	.....	.....	
11,250	45,000	.010000	.001000	.....	.....	
11,500	46,000	.011067	.001067	.....	.....	
11,750	47,000	.012133	.001066	.....	.....	
12,000	48,000	.013333	.001200	.....	.....	
12,250	49,000	.014333	.001000	.....	.....	
12,500	50,000	.015667	.001334	.....	.....	
13,000	52,000	.018667	.003000	.....	.....	
13,500	54,000	.021067	.002400	.....	.....	
14,000	56,000	.024000	.002933	.....	.....	
14,500	58,000	.027667	.003667	.....	.....	
15,000	60,000	.031367	.003700	.....	.....	
15,500	62,000	.035167	.003800	.....	.....	
16,000	64,000	.039667	.004500	.....	.....	
16,500	66,000	.045000	.005333	.....	.....	
17,000	68,000	.052500	.007500	.....	.....	
17,500	70,000	.060000	.007500	.....	.....	
18,000	72,000	.0700	.0100	.....	.....	
18,500	74,000	.0900	.0200	.....	.....	
19,000	76,000	.1167	.0267	.....	.....	
19,090	76,360	.1400	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,360
Elastic limit per square inch of original section	do....	41,000
Elongation per inch after rupture	inch..	0.1767
Elongation per inch under strain at elastic limit	do....	.001367
Reduction in diameter at point of rupture	do....	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		".33 from neck
Character of broken surface..granular; dull spot at circumference; opened cracks in surface of stem		
Diameter $\frac{1}{2}$ inch from point of rupture		".49

No. 2425.

Marks, $\frac{8\ T_{18}}{M\ T_6\ M}$
Diameter, ″.565.
Sectional area, .20 square inch.

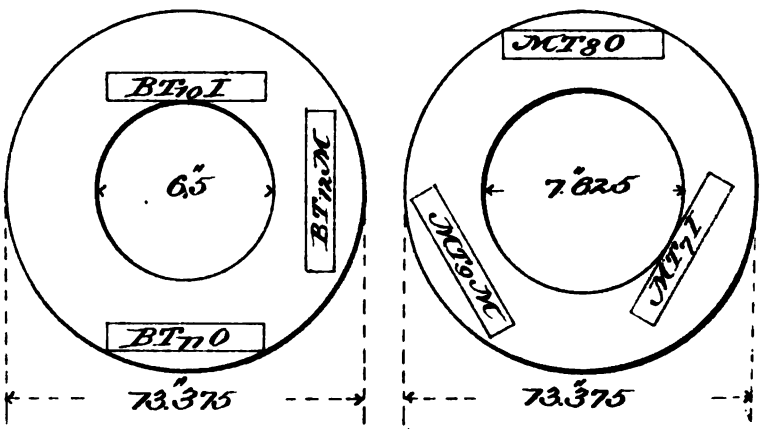
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000367	.000134	0.	.....	
5,000	20,000	.000500	.000133	0.	.....	
6,250	25,000	.000633	.000133	0.	.....	
7,500	30,000	.000833	.000200	0.	.....	
8,750	35,000	.001100	.000267	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	Elastic limit.
9,250	37,000	.007900	.006767	.....	.....	
9,500	38,000	.008933	.001033	.....	.....	
9,750	39,000	.009667	.000734	.....	.....	
10,000	40,000	.010667	.001000	.....	.....	
10,500	42,000	.013033	.002366	.....	.....	
11,000	44,000	.014000	.000967	.....	.....	
11,500	46,000	.017667	.003667	.....	.....	
12,000	48,000	.021033	.003366	.....	.....	
12,500	50,000	.023300	.002267	.....	.....	
13,000	52,000	.026500	.003200	.....	.....	
13,500	54,000	.030000	.003500	.....	.....	
14,000	56,000	.034000	.004000	.....	.....	
14,500	58,000	.038667	.004667	.....	.....	
15,000	60,000	.043333	.004666	.....	.....	
15,500	62,000	.049333	.006000	.....	.....	
16,000	64,000	.055667	.006334	.....	.....	
16,500	66,000	.0667	.011033	.....	.....	
17,000	68,000	.0733	.0066	.....	.....	
17,500	70,000	.0967	.0234	.....	.....	
18,000	72,000	.1267	.0300	.....	.....	
18,150	72,600	.1667	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,600
Elastic limit per square inch of original section	do...	36,000
Elongation per inch after rupture	inch..	0.1967
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.084
Reduction in area after rupture, per centum of original section		27.6
Position of rupture		1″.55 from neck
Character of broken surface	granular, 40 per centum; silky, oblique, 60 per centum	
Elongation of inch sections		″.12, ″.29*, ″.18

New Tube No. 78 8" converted Rifle

Additional specimens



H Ex 31 49 2

No. 2630.

Marks, $^{8\,Cn\,R_{18}\,T}_{B\,T_{16}\,I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	.....	.....	
2,500	10,000	.000233	.000133	.....	.....	
3,750	15,000	.000400	.000167	.....	.....	
5,000	20,000	.000567	.000167	.....	.....	
6,250	25,000	.000733	.000166	.....	.....	
7,500	30,000	.000933	.000200	.....	.....	
8,750	35,000	.001100	.000167	.....	.....	
10,000	40,000	.001333	.000233	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	Elastic limit.
10,500	42,000	.002867	.001500	.....	.....	
10,750	43,000	.004200	.001333	.....	.....	
11,000	44,000	.006200	.002000	.....	.....	
11,250	45,000	.007400	.001200	.....	.....	
11,500	46,000	.009000	.001600	.....	.....	
12,000	48,000	.011100	.002100	.....	.....	
12,500	50,000	.013333	.002233	.....	.....	
13,000	52,000	.016033	.002700	.....	.....	
13,500	54,000	.018667	.002634	.....	.....	
14,000	56,000	.021833	.003166	.....	.....	
14,500	58,000	.024833	.003000	.....	.....	
15,000	60,000	.028067	.003234	.....	.....	
15,500	62,000	.032333	.004266	.....	.....	
16,000	64,000	.036333	.004000	.....	.....	
16,500	66,000	.0433	.006967	.....	.....	
17,000	68,000	.0467	.0034	.....	.....	
17,500	70,000	.0567	.0100	.....	.....	
18,000	72,000	.0667	.0100	.....	.....	
18,500	74,000	.0800	.0133	.....	.....	
19,000	76,000	.1100	.0300	.....	.....	
19,110	76,440	.1467	.0367	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,440
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2033
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do..	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		1".35 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".23, ".28*, .'.10

No. 2631.

Marks, $^{8\ Cn\ R_{18}\ T}_{B\ T_{11}\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001067	.000134	.....	.....	
10,000	40,000	.001300	.000233	.....	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001400	.000067	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	
11,000	44,000	.001500	.000067	.....	.....	Elastic limit.
11,250	45,000	.002067	.000567	.....	.....	
11,500	46,000	.004067	.002000	.....	.....	
11,750	47,000	.005000	.000933	.....	.....	
12,000	48,000	.006167	.001167	.....	.....	
12,500	50,000	.008100	.001933	.....	.....	
13,000	52,000	.010200	.002100	.....	.....	
13,500	54,000	.012333	.002133	.....	.....	
14,000	56,000	.014467	.002134	.....	.....	
14,500	58,000	.016900	.002433	.....	.....	
15,000	60,000	.019667	.002767	.....	.....	
15,500	62,000	.022333	.002666	.....	.....	
16,000	64,000	.025667	.003334	.....	.....	
16,500	66,000	.028333	.002666	.....	.....	
17,000	68,000	.031667	.003334	.....	.....	
17,500	70,000	.036000	.004333	.....	.....	
18,000	72,000	.0433	.0073	.....	.....	
18,500	74,000	.0467	.0034	.....	.....	
19,000	76,000	.0567	.0100	.....	.....	
19,500	78,000	.0667	.0100	.....	.....	
20,000	80,000	.0733	.0066	.....	.....	
20,500	82,000	.0967	.0234	.....	.....	
20,710	82,840	.1333	.0366	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,840
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.2667
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		at middle of stem
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		″.12, ″.37, ″.13

No. 2632.

Marks, $^{8\ Cn\ R_{B}\ T}_{B\ T_{2}\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000367	.000134	0.	.....	
5,000	20,000	.000533	.000166	0.	.....	
6,250	25,000	.000700	.000167	0.	.....	
7,500	30,000	.000867	.000167	0.	.....	
8,750	35,000	.001100	.000233	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001200	.000067	.....	.....	
9,500	38,000	.001267	.000067	.....	.....	
9,750	39,000	.001267	0.	.....	.....	
10,000	40,000	.001300	.000033	.....	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	Elastic limit.
10,750	43,000	.001733	.000366	.....	.....	
11,000	44,000	.005767	.004034	.....	.....	
11,250	45,000	.006333	.000566	.....	.....	
11,500	46,000	.007533	.001200	.....	.....	
12,000	48,000	.009333	.001800	.....	.....	
12,500	50,000	.011500	.002167	.....	.....	
13,000	52,000	.014667	.003167	.....	.....	
13,500	54,000	.016667	.002000	.....	.....	
14,000	56,000	.019367	.002700	.....	.....	
14,500	58,000	.022267	.002900	.....	.....	
15,000	60,000	.025067	.002800	.....	.....	
15,500	62,000	.029000	.003933	.....	.....	
16,000	64,000	.034667	.005667	.....	.....	
16,500	66,000	.0400	.005333	.....	.....	
17,000	68,000	.0433	.0033	.....	.....	
17,500	70,000	.0500	.0067	.....	.....	
18,000	72,000	.0567	.0067	.....	.....	
18,500	74,000	.0667	.0100	.....	.....	
19,000	76,000	.0800	.0133	.....	.....	
19,500	78,000	.1033	.0233	.....	.....	
19,700	78,800	.1433	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,800
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2033
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		1″.60 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		″.15, ″.35*, ″.11

No. 2633.

Marks, $^{8\ Cn\ R_{18}\ T}_{M\ T_7 I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
10,000	40,000	.001300	.000200	.....	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001400	.000067	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	
11,000	44,000	.001500	.000067	.....	.....	Elastic limit.
11,250	45,000	.002000	.000500	.....	.....	
11,500	46,000	.002800	.000800	.....	.....	
11,750	47,000	.003533	.000733	.....	.....	
12,000	48,000	.004700	.001167	.....	.....	
12,250	49,000	.005567	.000867	.....	.....	
12,500	50,000	.007067	.001500	.....	.....	
13,000	52,000	.009933	.002866	.....	.....	
13,500	54,000	.012267	.002334	.....	.....	
14,000	56,000	.014267	.002000	.....	.....	
14,500	58,000	.016000	.001733	.....	.....	
15,000	60,000	.019000	.003000	.....	.....	
15,500	62,000	.022500	.002600	.....	.....	
16,000	64,000	.025333	.002833	.....	.....	
16,500	66,000	.028733	.003400	.....	.....	
17,000	68,000	.032000	.003267	.....	.....	
17,500	70,000	.036500	.004500	.....	.....	
18,000	72,000	.041667	.005167	.....	.....	
18,500	74,000	.0533	.011633	.....	.....	
19,000	76,000	.0600	.0067	.....	.....	
19,500	78,000	.0733	.0133	.....	.....	
20,000	80,000	.0933	.0200	.....	.....	
20,200	80,800	.1133	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,800
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.1267
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.094
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		½ inch from neck
Character of broken surface		granular; flaky spot at circumference
Elongation of inch sections		".07, ".12, ".[illegible]

No. 2634.

Marks, $^{8\,Cn\,R_{15}\,T}_{M\,T_5\,O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000267	.000134	0.		
3,750	15,000	.000467	.000200	0.		
5,000	20,000	.000667	.000200	0.		
6,250	25,000	.000833	.000166	0.		
7,500	30,000	.001000	.000167	0.		
8,750	35,000	.001200	.000200			
10,000	40,000	.001333	.000133			
10,250	41,000	.001400	.000167			Elastic limit.
10,500	42,000	.001500	.000100			
10,750	43,000	.001600	.000100			
11,000	44,000	.001833	.000233			
11,250	45,000	.002267	.000434			
11,500	46,000	.003933	.001666			
11,750	47,000	.004467	.000534			
12,000	48,000	.005667	.001200			
12,250	49,000	.006700	.001033			
12,500	50,000	.008000	.001300			
13,000	52,000	.010167	.002167			
13,500	54,000	.012700	.002533			
14,000	56,000	.014567	.001867			
14,500	58,000	.017233	.002666			
15,000	60,000	.019533	.002300			
15,500	62,000	.022067	.002534			
16,000	64,000	.024867	.002800			
16,500	66,000	.028200	.003333			
17,000	68,000	.032167	.003967			
17,500	70,000	.036000	.003833			
18,000	72,000	.040400	.004400			
18,500	74,000	.0433	.0029			
19,000	76,000	.0533	.0100			
19,500	78,000	.0633	.0100			
20,000	80,000	.0733	.0100			
20,500	82,000	.0967	.0234			
20,700	82,800	.1400	.0433			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,800
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.094
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		1 inch from neck
Character of broken surface		granular, 70 per centum; dull silky, 30 per centum
Elongation of inch sections		".10".18, ".23*

No. 2635.

Marks, $^{8\,Cn\,B_{18}\,T}_{M\,T_9\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

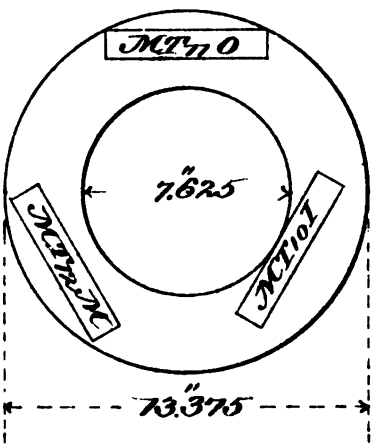
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.		
2,500	10,000	.000300	.000200	0.		
3,750	15,000	.000467	.000167	0.		
5,000	20,000	.000633	.000166	0.		
6,250	25,000	.000767	.000134	0.		
7,500	30,000	.000967	.000200	0.		
8,750	35,000	.001133	.000166			
9,000	36,000	.001167	.000034			
9,250	37,000	.001200	.000033			
9,500	38,000	.001267	.000067			
9,750	39,000	.001333	.000066			Elastic limit.
10,000	40,000	.002333	.001000			
10,250	41,000	.003200	.000867			
10,500	42,000	.004667	.001467			
10,750	43,000	.005867	.001200			
11,000	44,000	.007067	.001200			
11,250	45,000	.008067	.001000			
11,500	46,000	.009333	.001266			
12,000	48,000	.011733	.002400			
12,500	50,000	.013900	.002167			
13,000	52,000	.016567	.002667			
13,500	54,000	.019333	.002766			
14,000	56,000	.022333	.003000			
14,500	58,000	.025333	.003000			
15,000	60,000	.028667	.003334			
15,500	62,000	.032500	.003833			
16,000	64,000	.036667	.004167			
16,500	66,000	.042000	.005333			
17,000	68,000	.0500	.0080			
17,500	70,000	.0567	.0067			
18,000	72,000	.0667	.0100			
18,500	74,000	.0800	.0133			
19,000	76,000	.1267	.0467			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	76,0[illegible]
Elastic limit per square inch of original section	do	39,[illegible]
Elongation per inch after rupture	inch	0.[illegible]
Elongation per inch under strain at elastic limit	do	.0[illegible]
Reduction in diameter at point of rupture	do	.144
Reduction in area after rupture, per centum of original section		44 [illegible]
Position of rupture		1″.25 from [illegible]
Character of broken surface		silk[illegible]
Elongation of inch sections		″.07, ″.19, ″.[illegible]

New Tube No. 18 8" converted Rifle

Additional specimens



H Ex 31 492

No. 2689.

Marks, $\frac{8\,Cn\,R_{13}\,T}{M\,T_{10}\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000700	.000200	0.	.....	
6,250	25,000	.000867	.000167	0.	.....	
7,500	30,000	.001033	.000166	0.	.....	
8,750	35,000	.001267	.000234	.....	.....	
9,000	36,000	.001300	.000033	.....	.....	
9,250	37,000	.001333	.000033	.....	.....	
9,500	38,000	.001367	.000034	.....	.....	
9,750	39,000	.001400	.000033	.....	.....	
10,000	40,000	.001433	.000033	.....	.....	
10,250	41,000	.001467	.000034	.....	.....	
10,500	42,000	.001533	.000066	.....	.....	
10,750	43,000	.001600	.000067	.....	.....	Elastic limit.
11,000	44,000	.001900	.000300	.....	.....	
11,250	45,000	.002332	.000433	.....	.....	
11,500	46,000	.002667	.000334	.....	.....	
11,750	47,000	.004500	.001833	.....	.....	
12,000	48,000	.006333	.001833	.....	.....	
12,250	49,000	.007400	.001067	.....	.....	
12,500	50,000	.008700	.001300	.....	.....	
13,000	52,000	.010667	.001967	.....	.....	
13,500	54,000	.013000	.002333	.....	.....	
14,000	56,000	.015167	.002167	.....	.....	
14,500	58,000	.017867	.002700	.....	.....	
15,000	60,000	.020233	.002366	.....	.....	
15,500	62,000	.022500	.002267	.....	.....	
16,000	64,000	.026000	.003500	.....	.....	
16,500	66,000	.029833	.003833	.....	.....	
17,000	68,000	.033000	.003167	.....	.....	
17,500	70,000	.037333	.004333	.....	.....	
18,000	72,000	.0400	.002667	.....	.....	
18,500	74,000	.0433	.0033	.....	.....	
19,000	76,000	.0500	.0067	.....	.....	
19,500	78,000	.0700	.0200	.....	.....	
20,000	80,000	.0900	.0200	.....	.....	
20,480	81,920	.1333	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,920
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.1400
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.074
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		″.35 from neck
Character of broken surface		granular, with flaky spot
Elongation of inch sections		″.11, ″.11, ″.20*

No. 2690.

Marks, $^{8\,Cn\,R_{12}\,T}_{M\,T_{11}\,O}$
Diameter, ".564.
Sectional area, 25 .square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001200	.000233	.....	.....	
9,000	36,000	.001233	.000033	.....	.....	
9,250	37,000	.001233	0.	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	
10,000	40,000	.001333	.000033	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001500	.000100	.....	.....	
11,000	44,000	.001600	.000100	.....	.....	Elastic limit.
11,250	45,000	.002933	.001333	.....	.....	
11,500	46,000	.004833	.001900	.....	.....	
11,750	47,000	.005600	.000767	.....	.....	
12,000	48,000	.006767	.001167	.....	.....	
12,250	49,000	.007667	.000900	.....	.....	
12,500	50,000	.008833	.001166	.....	.....	
13,000	52,000	.010833	.002000	.....	.....	
13,500	54,000	.013167	.002334	.....	.....	
14,000	56,000	.015333	.002166	.....	.....	
14,500	58,000	.018000	.002667	.....	.....	
15,000	60,000	.020400	.002400	.....	.....	
15,500	62,000	.023233	.002833	.....	.....	
16,000	64,000	.026000	.002767	.....	.....	
16,500	66,000	.029533	.003533	.....	.....	
17,000	68,000	.033167	.003634	.....	.....	
17,500	70,000	.037333	.004166	.....	.....	
18,000	72,000	.041933	.004600	.....	.....	
18,500	74,000	.0500	.008067	.....	.....	
19,000	76,000	.0567	.0067	.....	.....	
19,500	78,000	.0700	.0133	.....	.....	
20,000	80,000	.0833	.0133	.....	.....	
20,500	82,000	.1200	.0367	.....	.....	
20,560	82,240	.1433	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,240
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.2067
Elongation per inch under strain at elastic limit	do...	.00160
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		".05 from middle of stem
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".13, ".35", ".14

No. 2691.

Marks, $^{8\ C_2\ R_{18}\ T}_{M\ T_{12}\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

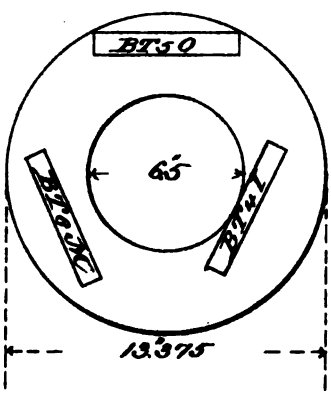
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000667	.000200	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	.....	.....	
9,000	36,000	.001233	.000066	.....	.....	
9,250	37,000	.001267	.000034	.....	.....	
9,500	38,000	.001300	.000033	.....	.....	
9,750	39,000	.001333	.000033	.....	.....	
10,000	40,000	.001400	.000067	.....	.....	Elastic limit.
10,250	41,000	.001600	.000200	.....	.....	
10,500	42,000	.002600	.001000	.....	.....	
10,750	43,000	.003667	.001067	.....	.....	
11,000	44,000	.005233	.001566	.....	.....	
11,250	45,000	.006533	.001300	.....	.....	
11,500	46,000	.007667	.001134	.....	.....	
11,750	47,000	.008667	.001000	.....	.....	
12,000	48,000	.009567	.000900	.....	.....	
12,250	49,000	.010767	.001200	.....	.....	
12,500	50,000	.011800	.001033	.....	.....	
13,000	52,000	.013900	.002100	.....	.....	
13,500	54,000	.016533	.002633	.....	.....	
14,000	56,000	.019000	.002467	.....	.....	
14,500	58,000	.021767	.002767	.....	.....	
15,000	60,000	.025000	.003233	.....	.....	
15,500	62,000	.028167	.003167	.....	.....	
16,000	64,000	.031800	.003633	.....	.....	
16,500	66,000	.036167	.004367	.....	.....	
17,000	68,000	.040667	.004500	.....	.....	
17,500	70,000	.0500	.009333	.....	.....	
18,000	72,000	.0567	.0067	.....	.....	
18,500	74,000	.0667	.0100	.....	.....	
19,000	76,000	.0800	.0133	.....	.....	
19,460	77,840	.1233	.0433	.....	.....	Tensile strength.

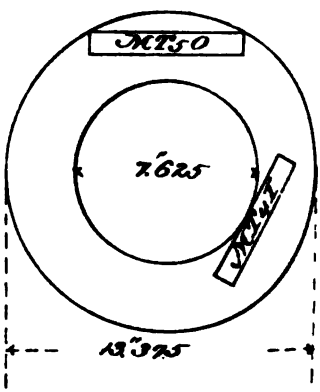
General summary.

Tensile strength per square inch of original section	pounds..	77,840
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.1867
Elongation per inch under strain at elastic limit	do...	001400
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		″.70 from neck
Character of broken surface		silky
Elongation of inch sections		″.07, ″.10, ″.39

Tube No. 79 8" converted Rifle

Additional specimens





H Ex 31 492

No. 2170.

Marks, $\frac{8\,T_{12}}{B\,T_4\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000200	.000100	0.	.....	
3,750	15,000	.000367	.000167	0.	.....	
5,000	20,000	.000533	.000166	0.	.....	
6,250	25,000	.000700	.000167	0.	.....	
7,500	30,000	.000867	.000167	0.	.....	
8,750	35,000	.001033	.000166	0.	.....	Elastic limit.
9,000	36,000	.001933	.000900	.....	.....	
9,250	37,000	.002300	.000367	.....	.....	
9,500	38,000	.003267	.000967	.....	.....	
9,750	39,000	.005133	.001866	.....	.....	
10,000	40,000	.006333	.001200	.....	.....	
10,250	41,000	.007067	.000734	.....	.....	
10,500	42,000	.008400	.001333	.....	.....	
10,750	43,000	.009367	.000967	.....	.....	
11,000	44,000	.010400	.001033	.....	.....	
11,250	45,000	.011433	.001033	.....	.....	
11,500	46,000	.012667	.001234	.....	.....	
11,750	47,000	.013733	.001066	.....	.....	
12,000	48,000	.015000	.001267	.....	.....	
12,250	49,000	.016367	.001367	.....	.....	
12,500	50,000	.017667	.001300	.....	.....	
13,000	52,000	.020400	.002733	.....	.....	
13,500	54,000	.023700	.003300	.....	.....	
14,000	56,000	.027333	.003633	.....	.....	
14,500	58,000	.031333	.004000	.....	.....	
15,000	60,000	.035833	.004500	.....	.....	
15,500	62,000	.041000	.005167	.....	.....	
16,000	64,000	.046667	.005667	.....	.....	
16,500	66,000	.054000	.007333	.....	.....	
17,000	68,000	.062667	.008667	.....	.....	
17,500	70,000	.074500	.011833	.....	.....	
18,000	72,000	.0933	.0188	.....	.....	
18,500	74,000	.1400	.0467	.....	.....	
18,510	74,040	.1567	.0167	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,040
Elastic limit per square inch of original section	do ..	35,000
Elongation per inch after rupture	inch..	0.2067
Elongation per inch under strain at elastic limit	do...	.001033
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture	½ inch from middle of stem	
Character of broken surface		silky
Elongation of inch sections		″.28*, ″.22, ″.12

No. 2171.

Marks, $\frac{S\ T_1}{B\ T_2\ O}$.
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0		
2,500	10,000	.000300	.000167	0		
3,750	15,000	.000433	.000133	0	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001067	.000134	0.	.....	
9,000	36,000	.001133	.000066	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001267	.000067	.....	.....	Elastic limit.
10,000	40,000	.001400	.000133	.000133	.000133	
10,250	41,000	.001500	.000100	.....	.....	
10,500	42,000	.005133	.003633	.....	.....	
10,750	43,000	.005867	.000734	.....	.....	
11,000	44,000	.006767	.000900	.....	.....	
11,250	45,000	.007800	.001033	.....	.....	
11,500	46,000	.008733	.000933	.....	.....	
11,750	47,000	.010000	.001267	.....	.....	
12,000	48,000	.010800	.000800	.....	.....	
12,250	49,000	.011800	.001000	.....	.....	
12,500	50,000	.013033	.001233	.....	.....	
12,750	51,000	.014167	.001134	.....	.....	
13,000	52,000	.015333	.001166	.....	.....	
13,250	53,000	.016667	.001334	.....	.....	
13,500	54,000	.017733	.001066	.....	.....	
13,750	55,000	.018833	.001100	.....	.....	
14,000	56,000	.020400	.001567	.....	.....	
14,250	57,000	.021667	.001267	.....	.....	
14,500	58,000	.023333	.001666	.....	.....	
14,750	59,000	.024667	.001334	.....	.....	
15,000	60,000	.026333	.001666	.....	.....	
15,500	62,000	.030000	.003667	.....	.....	
16,000	64,000	.034333	.004333	.....	.....	
16,500	66,000	.038333	.004000	.....	.....	
17,000	68,000	.043453	.005100	.....	.....	
17,500	70,000	.049867	.006434	.....	.....	
18,000	72,000	.056667	.006800	.....	.....	
18,500	74,000	.0667	.010033	.....	.....	
19,000	76,000	.0833	.0166	.....	.....	
19,500	78,000	.1067	.0234	.....	.....	
19,700	78,800	.1633	.0566	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,800
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2267
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.153
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.35, ″.21, ″.12

No. 2172.

Marks, $\frac{8\ T_{10}}{B\ T_8\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	Elastic limit.
9,000	36,000	.001233	.000100	.....	.....	
9,250	37,000	.001367	.000134	.....	.....	
9,500	38,000	.002500	.001133	.....	.....	
9,750	39,000	.004500	.002000	.....	.....	
10,000	40,000	.005400	.000900	.....	.....	
10,250	41,000	.006167	.000767	.....	.....	
10,500	42,000	.007233	.001066	.....	.....	
10,750	43,000	.008000	.000767	.....	.....	
11,000	44,000	.008933	.000933	.....	.....	
11,250	45,000	.009867	.000934	.....	.....	
11,500	46,000	.011067	.001200	.....	.....	
11,750	47,000	.012100	.001033	.....	.....	
12,000	48,000	.013567	.001467	.....	.....	
12,250	49,000	.014767	.001200	.....	.....	
12,500	50,000	.016000	.001233	.....	.....	
13,000	52,000	.018333	.002333	.....	.....	
13,500	54,000	.021000	.002667	.....	.....	
14,000	56,000	.024333	.003333	.....	.....	
14,500	58,000	.027333	.003000	.....	.....	
15,000	60,000	.030667	.003334	.....	.....	
15,500	62,000	.035000	.004333	.....	.....	
16,000	64,000	.040000	.005000	.....	.....	
16,500	66,000	.045333	.005333	.....	.....	
17,000	68,000	.052333	.007000	.....	.....	
17,500	70,000	.061000	.008667	.....	.....	
18,000	72,000	.072167	.011167	.....	.....	
18,500	74,000	.0933	.021133	.....	.....	
19,000	76,000	.1267	.0334	.....	.....	
19,120	76,480	.1700	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,480
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2133
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		".60 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".23*, ".27*, ".14

No. 2173.

Marks, $\frac{S\ T_9}{M\ T_4\ I}$.
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001033	.000233	.000033	.000033	
8,750	35,000	.001167	.000134	.000033	0.	
9,000	36,000	.001167	0.	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001333	.000066	.000033	0.	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001467	.000067	.....	.....	
11,000	44,000	.001533	.000066	.....	.....	Elastic limit.
11,250	45,000	.002367	.000834	.....	.....	
11,500	46,000	.004333	.001966	.....	.....	
11,750	47,000	.006033	.001700	.....	.....	
12,000	48,000	.007567	.001534	.....	.....	
12,250	49,000	.008933	.001366	.....	.....	
12,500	50,000	.010000	.001067	.....	.....	
12,750	51,000	.011000	.001000	.....	.....	
13,000	52,000	.011933	.000933	.....	.....	
13,250	53,000	.012833	.000900	.....	.....	
13,500	54,000	.014000	.001167	.....	.....	
13,750	55,000	.014933	.000933	.....	.....	
14,000	56,000	.016667	.001734	.....	.....	
14,250	57,000	.017700	.001033	.....	.....	
14,500	58,000	.019067	.001367	.....	.....	
14,750	59,000	.020700	.001633	.....	.....	
15,000	60,000	.022700	.002000	.....	.....	
15,500	62,000	.025500	.002800	.....	.....	
16,000	64,000	.029533	.004033	.....	.....	
16,500	66,000	.032667	.003134	.....	.....	
17,000	68,000	.037067	.004400	.....	.....	
17,500	70,000	.042667	.005600	.....	.....	
18,000	72,000	.048667	.006000	.....	.....	
18,500	74,000	.056667	.008000	.....	.....	
19,000	76,000	.066667	.010000	.....	.....	
19,500	78,000	.0900	.023333	.....	.....	
20,000	80,000	.1233	.0333	.....	.....	
20,020	80,080	.1600	.0367	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,080
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.2233
Elongation per inch under strain at elastic limit	do...	.001533
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		″.95 from neck
Character of broken surface		silky
Elongation of inch sections		″.23, ″.19, ″.18

No. 2174.

Marks, $\frac{8\ T_{19}}{M\ T_8\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001000	.000200	.000033	.000033	
8,750	35,000	.001167	.000167	.000033	0.	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001300	.000067	.....	.....	
9,750	39,000	.001333	.000033	.....	.....	
10,000	40,000	.001367	.000034	.000033	0.	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001433	.000033	.....	.....	
10,750	43,000	.001467	.000034	.....	.....	
11,000	44,000	.001500	.000033	.....	.....	
11,250	45,000	.001567	.000067	.000100	.000067	Elastic limit.
11,500	46,000	.001733	.000166	.....	.....	
11,750	47,000	.004000	.002267	.....	.....	
12,000	48,000	.005833	.001833	.....	.....	
12,250	49,000	.006900	.001067	.....	.....	
12,500	50,000	.008067	.001167	.....	.....	
12,750	51,000	.009333	.001266	.....	.....	
13,000	52,000	.010333	.001000	.....	.....	
13,250	53,000	.011333	.001000	.....	.....	
13,500	54,000	.012833	.001500	.....	.....	
13,750	55,000	.013900	.001067	.....	.....	
14,000	56,000	.015200	.001300	.....	.....	
14,250	57,000	.016200	.001000	.....	.....	
14,500	58,000	.017667	.001467	.....	.....	
14,750	59,000	.018800	.001133	.....	.....	
15,000	60,000	.020000	.001200	.....	.....	
15,500	62,000	.023500	.003500	.....	.....	
16,000	64,000	.026667	.003167	.....	.....	
16,500	66,000	.030067	.003400	.....	.....	
17,000	68,000	.034333	.004266	.....	.....	
17,500	70,000	.039167	.004834	.....	.....	
18,000	72,000	.044500	.005333	.....	.....	
18,500	74,000	.051667	.007167	.....	.....	
19,000	76,000	.060000	.008333	.....	.....	
19,500	78,000	.0733	.0133	.....	.....	
20,000	80,000	.0967	.0234	.....	.....	
20,210	80,840	.1500	.0533	.....	.....	Tensile strength

General summary.

Tensile strength per square inch of original section	pounds..	80,840
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do...	.001567
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		″1.4, ″.39*, ″.16

NEW TUBE NO. 19.

No. 2499.

Marks, $\frac{8\ T_{19}}{B\ T,\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001033	.000200	.000033	.000033	
8,750	35,000	.001233	.000200	.....	.....	
9,000	36,000	.001333	.000100	.....	.....	
9,250	37,000	.001400	.000067	.....	.....	
9,500	38,000	.001500	.000100	.....	.....	Elastic limit.
9,750	39,000	.004332	.002833	.....	.....	
10,000	40,000	.005867	.001534	.....	.....	
10,250	41,000	.006867	.001000	.....	.....	
10,500	42,000	.008167	.001300	.....	.....	
10,750	43,000	.009200	.001033	.....	.....	
11,000	44,000	.010667	.001467	.....	.....	
11,250	45,000	.012000	.001333	.....	.....	
11,500	46,000	.013333	.001333	.....	.....	
11,750	47,000	.014433	.001100	.....	.....	
12,000	48,000	.015667	.001234	.....	.....	
12,250	49,000	.016767	.001100	.....	.....	
12,500	50,000	.018833	.002066	.....	.....	
13,000	52,000	.023000	.004167	.....	.....	
13,500	54,000	.026500	.003500	.....	.....	
14,000	56,000	.030000	.003500	.....	.....	
14,500	58,000	.034500	.004500	.....	.....	
15,000	60,000	.040000	.005500	.....	.....	
15,500	62,000	.045667	.005667	.....	.....	
16,000	64,000	.053333	.007666	.....	.....	
16,500	66,000	.061667	.008334	.....	.....	
17,000	68,000	.0767	.015033	.....	.....	
17,500	70,000	.0967	.0200	.....	.....	
17,990	71,960	.1633	.0666	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	71,960
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2733
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.204
Reduction in area after rupture, per centum of original section		59.3
Position of rupture		1".29 from neck
Character of broken surface		silky
Elongation of inch sections		".39", ".29, ".14

No. 2500.

Marks, $^{S\ T_S}_{B\ T_S\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000833	.000200	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001200	.000200	.....	.....	Elastic limit.
9,000	36,000	.001467	.000267	.....	.....	
9,250	37,000	.002900	.001433	.....	.....	
9,500	38,000	.005400	.002500	.....	.....	
9,750	39,000	.006633	.001233	.....	.....	
10,000	40,000	.008100	.001467	.....	.....	
10,250	41,000	.009000	.000900	.....	.....	
10,500	42,000	.010400	.001400	.....	.....	
10,750	43,000	.011333	.000933	.....	.....	
11,000	44,000	.012667	.001334	.....	.....	
11,250	45,000	.013667	.001000	.....	.....	
11,500	46,000	.015000	.001333	.....	.....	
11,750	47,000	.016333	.001333	.....	.....	
12,000	48,000	.018333	.002000	.....	.....	
12,250	49,000	.019000	.000667	.....	.....	
12,500	50,000	.021000	.002000	.....	.....	
13,000	52,000	.024667	.003667	.....	.....	
13,500	54,000	.028333	.003666	.....	.....	
14,000	56,000	.033333	.005000	.....	.....	
14,500	58,000	.037000	.003667	.....	.....	
15,000	60,000	.042333	.005333	.....	.....	
15,500	62,000	.048667	.006334	.....	.....	
16,000	64,000	.056167	.007500	.....	.....	
16,500	66,000	.0700	.013833	.....	.....	
17,000	68,000	.0833	.0133	.....	.....	
17,500	70,000	.1033	.0200	.....	.....	
17,980	71,920	.1667	.0634	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	71,920
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2553
Elongation per inch under strain at elastic limit	do...	.001200
Reduction in diameter at point of rupture	do...	.194
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		".70 from neck
Character of broken surface		silky
Elongation of inch sections		".13, ".17, ".46"

No. 2501.

Marks, $_{B}{}^{8}T_{2}{}_{M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	Elastic limit.
9,000	36,000	.011133	.010000	.....	.....	
9,250	37,000	.012067	.000934	.....	.....	
9,500	38,000	.012600	.000533	.....	.....	
9,750	39,000	.013333	.000733	.....	.....	
10,000	40,000	.015000	.001667	.....	.....	
10,250	41,000	.016667	.001667	.....	.....	
10,500	42,000	.017833	.001166	.....	.....	
10,750	43,000	.019167	.001334	.....	.....	
11,000	44,000	.020600	.001433	.....	.....	
11,250	45,000	.022333	.001733	.....	.....	
11,500	46,000	.024100	.001767	.....	.....	
11,750	47,000	.025667	.001567	.....	.....	
12,000	48,000	.028000	.002333	.....	.....	
12,250	49,000	.029333	.001333	.....	.....	
12,500	50,000	.032000	.002667	.....	.....	
13,000	52,000	.037000	.005000	.....	.....	
13,500	54,000	.043333	.006333	.....	.....	
14,000	56,000	.049667	.006334	.....	.....	
14,500	58,000	.056667	.007000	.....	.....	
15,000	60,000	.0700	.013333	.....	.....	
15,500	62,000	.0833	.0133	.....	.....	
16,000	64,000	.0967	.0134	.....	.....	
16,500	66,000	.1267	.0300	.....	.....	
16,820	67,280	.1933	.0666	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	67,280
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.3067
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.194
Reduction in area after rupture, per centum of original section		57.6
Position of rupture		1″.60 from neck
Character of broken surface	silky; opened cracks in surface of stem	
Elongation of inch sections		″.19, ″.49, ″.24

No. 2502.

Marks, $\frac{S\ T_B}{M\ T_C\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000867	.000200	0.	.....	
7,500	30,000	.001033	.000166	0.	.....	
8,750	35,000	.001167	.000134	.....	.....	
9,000	36,000	.001233	.000066	.....	.....	
9,250	37,000	.001267	.000034	.....	.....	
9,500	38,000	.001300	.000033	.....	.....	
9,750	39,000	.001333	.000033	.....	.....	
10,000	40,000	.001400	.000067	.....	.....	
10,250	41,000	.001467	.000067	.....	.....	Elastic limit.
10,500	42,000	.001633	.000166	.....	.....	
10,750	43,000	.002533	.000900	.....	.....	
11,000	44,000	.004067	.001534	.....	.....	
11,250	45,000	.005733	.001666	.....	.....	
11,500	46,000	.007333	.001600	.....	.....	
11,750	47,000	.008667	.001334	.....	.....	
12,000	48,000	.009667	.001000	.....	.....	
12,250	49,000	.010332	.000666	.....	.....	
12,500	50,000	.011667	.001334	.....	.....	
13,000	52,000	.014433	.002766	.....	.....	
13,500	54,000	.017333	.002900	.....	.....	
14,000	56,000	.020233	.002900	.....	.....	
14,500	58,000	.023333	.003100	.....	.....	
15,000	60,000	.026667	.003334	.....	.....	
15,500	62,000	.030100	.003433	.....	.....	
16,000	64,000	.034167	.004067	.....	.....	
16,500	66,000	.038833	.004666	.....	.....	
17,000	68,000	.044500	.005667	.....	.....	
17,500	70,000	.051333	.006833	.....	.....	
18,000	72,000	.059667	.008334	.....	.....	
18,500	74,000	.0733	.013633	.....	.....	
19,000	76,000	.0933	.0200	.....	.....	
19,480	77,920	.1433	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,920
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.1733
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.094
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		$\frac{3}{4}$ inch from neck
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		".13, ".15, ".24*

No. 2503.

Marks, $\frac{8\ T_{19}}{M\ T_{7}\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000767	.000200	0.	.....	
7,500	30,000	.000967	.000200	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001233	.000066	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001333	.000066	.....	.....	
10,000	40,000	.001400	.000067	.....	.....	
10,250	41,000	.001433	.000033	.....	.....	Elastic limit.
10,500	42,000	.004500	.003067	.....	.....	
10,750	43,000	.005500	.001000	.....	.....	
11,000	44,000	.007500	.002000	.....	.....	
11,250	45,000	.008667	.001167	.....	.....	
11,500	46,000	.010000	.001333	.....	.....	
11,750	47,000	.011000	.001000	.....	.....	
12,000	48,000	.011833	.000833	.....	.....	
12,250	49,000	.012667	.000834	.....	.....	
12,500	50,000	.014167	.001500	.....	.....	
13,000	52,000	.016667	.002500	.....	.....	
13,500	54,000	.020000	.003333	.....	.....	
14,000	56,000	.022700	.002700	.....	.....	
14,500	58,000	.025833	.003133	.....	.....	
15,000	60,000	.029667	.003834	.....	.....	
15,500	62,000	.033333	.003666	.....	.....	
16,000	64,000	.038000	.004667	.....	.....	
16,500	66,000	.043333	.005333	.....	.....	
17,000	68,000	.049667	.006334	.....	.....	
17,500	70,000	.057333	.007666	.....	.....	
18,000	72,000	.0700	.012667	.....	.....	
18,500	74,000	.0867	.0167	.....	.....	
19,000	76,000	.1133	.0266	.....	.....	
19,200	76,800	.1433	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,800
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2633
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1".55 from neck; oblique
Character of broken surface		silky
Elongation of inch sections		".13, ".43", ".23

No. 2504.

Marks, $\frac{S\ T_n}{M\ T_s\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

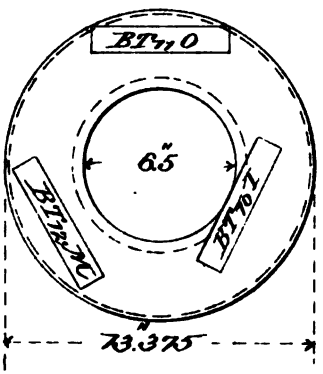
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000967	.000200	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001233	.000066	.....	.....	
9,500	38,000	.001333	.000100	.....	.....	
9,750	39,000	.001400	.000067	.....	.....	Elastic limit.
10,000	40,000	.001533	.000133	.....	.....	
10,250	41,000	.004067	.002534	.....	.....	
10,500	42,000	.007100	.003033	.....	.....	
10,750	43,000	.008000	.000900	.....	.....	
11,000	44,000	.009333	.001333	.....	.....	
11,250	45,000	.010700	.001367	.....	.....	
11,500	46,000	.011413	.000713	.....	.....	
11,750	47,000	.012367	.000954	.....	.....	
12,000	48,000	.013933	.001566	.....	.....	
12,250	49,000	.014833	.000900	.....	.....	
12,500	50,000	.016333	.001500	.....	.....	
12,000	52,000	.019567	.003234	.....	.....	
13,500	54,000	.023000	.003433	.....	.....	
14,000	56,000	.027000	.004000	.....	.....	
14,500	58,000	.029167	.002167	.....	.....	
15,000	60,000	.033167	.004000	.....	.....	
15,500	62,000	.038500	.005333	.....	.....	
16,000	64,000	.044000	.005500	.....	.....	
16,500	66,000	.050833	.006833	.....	.....	
17,000	68,000	.058167	.007334	.....	.....	
17,500	70,000	.0667	.008533	.....	.....	
18,000	72,000	.0833	.0166	.....	.....	
18,500	74,000	.1067	.0234	.....	.....	
18,760	75,040	.1600	.0533	.....	.....	Tensile strength.

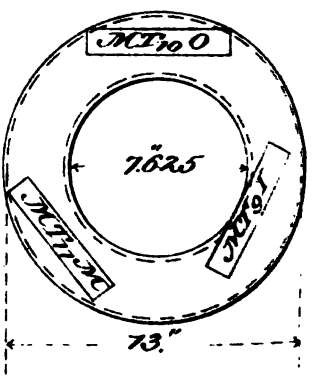
General summary.

Tensile strength per square inch of original section	pounds..	75,040
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2367
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		".41*, ".18, ".12

New Tube No. 19 8" converted Rifle

Additional specimens





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No. 2624.

Marks, $^{8\ Cn\ R_{10}\ T}_{B\ T_{10}\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000533	.000200	0.	.....	
5,000	20,000	.000700	.000167	0.	.....	
6,250	25,000	.000867	.000167	0.	.....	
7,500	30,000	.001033	.000166	.000033	.000033	
8,750	35,000	.001167	.000134	.....	.....	
10,000	40,000	.001367	.000200	.....	.....	
10,250	41,000	.001400	.000033	.....	.....	Elastic limit.
10,500	42,000	.003167	.001767	.....	.....	
10,750	43,000	.005667	.002500	.....	.....	
11,000	44,000	.007100	.001433	.....	.....	
11,250	45,000	.008000	.000900	.....	.....	
11,500	46,000	.009233	.001233	.....	.....	
11,750	47,000	.010233	.001000	.....	.....	
12,000	48,000	.011567	.001334	.....	.....	
12,250	49,000	.012667	.001100	.....	.....	
12,500	50,000	.014033	.001366	.....	.....	
13,000	52,000	.016433	.002400	.....	.....	
13,500	54,000	.019333	.002900	.....	.....	
14,000	56,000	.022000	.002667	.....	.....	
14,500	58,000	.025200	.003200	.....	.....	
15,000	60,000	.028667	.003467	.....	.....	
15,500	62,000	.032900	.004233	.....	.....	
16,000	64,000	.037067	.004167	.....	.....	
16,500	66,000	.0433	.006233	.....	.....	
17,000	68,000	.0533	.0100	.....	.....	
17,500	70,000	.0600	.0067	.....	.....	
18,000	72,000	.0667	.0067	.....	.....	
18,500	74,000	.0833	.0166	.....	.....	
19,000	76,000	.1067	.0234	.....	.....	
19,180	76,720	.1433	.0366	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,720
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		″.95 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		″.12, ″.21, ″.37*

No. 2625.

Marks, $^{8\,C_a\,R_{19}\,T}_{B\,T_{11}\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000733	.000133	0.	.....	
7,500	30,000	.000933	.000200	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001200	.000067	.....	.....	Elastic limit.
9,500	38,000	.001333	.000133	.....	.....	
9,750	39,000	.002000	.000667	.....	.....	
10,000	40,000	.003667	.001667	.....	.....	
10,250	41,000	.005667	.002000	.....	.....	
10,500	42,000	.007000	.001333	.....	.....	
10,750	43,000	.008567	.001567	.....	.....	
11,000	44,000	.009367	.000800	.....	.....	
11,500	46,000	.011067	.001700	.....	.....	
12,000	48,000	.013533	.002466	.....	.....	
12,500	50,000	.015667	.002134	.....	.....	
13,000	52,000	.018333	.002666	.....	.....	
13,500	54,000	.021367	.003034	.....	.....	
14,000	56,000	.024333	.002966	.....	.....	
14,500	58,000	.028000	.003667	.....	.....	
15,000	60,000	.032033	.004033	.....	.....	
15,500	62,000	.036033	.004000	.....	.....	
16,000	64,000	.0400	.003967	.....	.....	
16,500	66,000	.0467	.0067	.....	.....	
17,000	68,000	.0567	.0100	.....	.....	
17,500	70,000	.0667	.0100	.....	.....	
18,000	72,000	.0767	.0100	.....	.....	
18,500	74,000	.1033	.0266	.....	.....	
18,950	75,800	.1633	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,800
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001200
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		1″.65 from neck
Character of broken surface		silky
Elongation of inch sections		″.17, ″.38″, ″.15

No. 2626.

Marks, $^{8\,C_8\,R_{12}\,T}_{B\,T_{12}\,M}$
Diameter ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000667	.000234	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.001000	.000200	0.	.....	
8,750	35,000	.001167	.000167	.....	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001267	.000067	.....	.....	
9,500	38,000	.001333	.000066	.....	.....	Elastic limit.
9,750	39,000	.002000	.000667	.....	.....	
10,000	40,000	.004767	.002767	.....	.....	
10,250	41,000	.006033	.001266	.....	.....	
10,500	42,000	.007167	.001134	.....	.....	
10,750	43,000	.008233	.001066	.....	.....	
11,000	44,000	.009367	.001134	.....	.....	
11,500	46,000	.011900	.002533	.....	.....	
12,000	48,000	.014333	.002433	.....	.....	
12,500	50,000	.016667	.002334	.....	.....	
13,000	52,000	.019067	.002400	.....	.....	
13,500	54,000	.022033	.002966	.....	.....	
14,000	56,000	.025467	.003434	.....	.....	
14,500	58,000	.029000	.003533	.....	.....	
15,000	60,000	.032833	.003833	.....	.....	
15,500	62,000	.037233	.004400	.....	.....	
16,000	64,000	.0433	.006067	.....	.....	
16,500	66,000	.0500	.0067	.....	.....	
17,000	68,000	.0567	.0067	.....	.....	
17,500	70,000	.0667	.0100	.....	.....	
18,000	72,000	.0767	.0100	.....	.....	
18,500	74,000	.1033	.0266	.....	.....	
18,820	75,280	.1667	.0634	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,280
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2367
Elongation per inch under strain at elastic limit	do...	.001333
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section	do...	52.2
Position of rupture		″.20 from neck
Character of broken surface		silky
Elongation of inch sections		″.35*, ″.23, ″.13

No. 2627.

Marks, $^{8\,Cn\,R_{12}\,T}_{M\,T,\,I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000200	.000200	.000033	.000033	
2,500	10,000	.000433	.000233	.000067	.000034	
3,750	15,000	.000633	.000200	.000067	0.	
5,000	20,000	.000833	.000200	.000067	0.	
6,250	25,000	.000967	.000134	.000067	0.	
7,500	30,000	.001133	.000166	.000067	0.	
8,750	35,000	.001333	.000200	.....	.....	
9,000	36,000	.001367	.000034	.....	.....	
9,250	37,000	.001400	.000033	.....	.....	
9,500	38,000	.001433	.000033	.....	.....	
9,750	39,000	.001500	.000067	.....	.....	
10,000	40,000	.001533	.000033	.....	.....	Elastic limit.
10,250	41,000	.001667	.000134	.....	.....	
10,500	42,000	.002033	.000366	.....	.....	
10,750	43,000	.003333	.001300	.....	.....	
11,000	44,000	.005400	.002067	.....	.....	
11,250	45,000	.006400	.001000	.....	.....	
11,500	46,000	.007700	.001300	.....	.....	
12,000	48,000	.009867	.002167	.....	.....	
12,500	50,000	.012167	.002300	.....	.....	
13,000	52,000	.014733	.002566	.....	.....	
13,500	54,000	.016833	.002100	.....	.....	
14,000	56,000	.019333	.002500	.....	.....	
14,500	58,000	.022500	.003167	.....	.....	
15,000	60,000	.025333	.002833	.....	.....	
15,500	62,000	.028867	.003534	.....	.....	
16,000	64,000	.032867	.003800	.....	.....	
16,500	66,000	.037500	.004333	.....	.....	
17,000	68,000	.0400	.0025	.....	.....	
17,500	70,000	.0467	.0067	.....	.....	
18,000	72,000	.0567	.0100	.....	.....	
18,500	74,000	.0667	.0100	.....	.....	
19,000	76,000	.0767	.0100	.....	.....	
19,500	78,000	.1067	.0300	.....	.....	
19,700	78,800	.1633	.0566	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,800
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2123
Elongation per inch under strain at elastic limit	do...	.001533
Reduction in diameter at point of rupture	do...	.194
Reduction in area after rupture, per centum of original section		57.6
Position of rupture		".65 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".10, ".42, ".12

No. 2628.

Marks, $^{8\,Cn\,R_{10}\,T}_{M\,T_{10}\,O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000767	.000134	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
10,000	40,000	.001333	.000233	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001400	0.	.....	.....	
11,000	44,000	.001433	.000033	.....	.....	
11,250	45,000	.001533	.000100	.....	.....	
11,500	46,000	.001600	.000067	.....	.....	Elastic limit.
11,750	47,000	.001767	.000167	.....	.....	
12,000	48,000	.002700	.000933	.....	.....	
12,250	49,000	.004167	.001467	.....	.....	
12,500	50,000	.006333	.002166	.....	.....	
13,000	52,000	.008400	.002067	.....	.....	
13,500	54,000	.010667	.002267	.....	.....	
14,000	56,000	.013033	.002366	.....	.....	
14,500	58,000	.015333	.002300	.....	.....	
15,000	60,000	.018000	.002667	.....	.....	
15,500	62,000	.020400	.002400	.....	.....	
16,000	64,000	.023333	.002933	.....	.....	
16,500	66,000	.026500	.003167	.....	.....	
17,000	68,000	.029667	.003167	.....	.....	
17,500	70,000	.034000	.004333	.....	.....	
18,000	72,000	.038067	.004067	.....	.....	
18,500	74,000	.0433	.005233	.....	.....	
19,000	76,000	.0467	.0034	.....	.....	
19,500	78,000	.0600	.0133	.....	.....	
20,000	80,000	.0667	.0067	.....	.....	
20,500	82,000	.0867	.0200	.....	.....	
20,900	83,600	.1333	.0466	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,600
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.2067
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		".10 from neck
Character of broken surface		silky
Elongation of inch sections		".12, ".19, ".31

No. 2629.

Marks, $^{8\,C_9\,B_{10}\,T}_{M\,T_{11}\,M}$
Diameter, ".564.
Sectional area, .25 square inch.

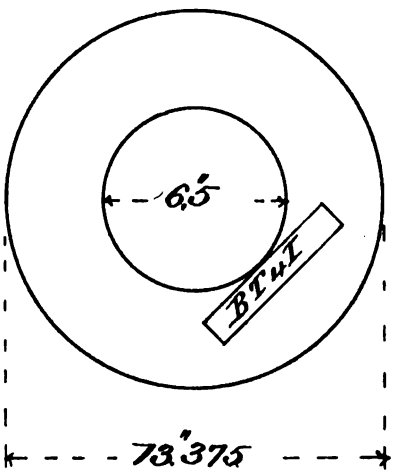
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000300	.000167	0.		
3,750	15,000	.000467	.000167	0.		
5,000	20,000	.000633	.000166	0.		
6,250	25,000	.000867	.000234	0.		
7,500	30,000	.001033	.000166	0.		
8,750	35,000	.001233	.000200			
9,000	36,000	.001267	.000034			
9,250	37,000	.001267	0.			
9,500	38,000	.001300	.000033			
9,750	39,000	.001333	.000033			
10,000	40,000	.001367	.000034			
10,250	41,000	.001433	.000066			
10,500	42,000	.001433	0.			
10,750	43,000	.001467	.000034			
11,000	44,000	.001533	.000066			
11,250	45,000	.001600	.000067			Elastic limit.
11,500	46,000	.001833	.000233			
11,750	47,000	.002700	.000867			
12,000	48,000	.004667	.001967			
12,250	49,000	.005833	.001166			
12,500	50,000	.007333	.001500			
13,000	52,000	.009667	.002334			
13,500	54,000	.012000	.002333			
14,000	56,000	.014333	.002333			
14,500	58,000	.016867	.002534			
15,000	60,000	.019367	.002500			
15,500	62,000	.022033	.002666			
16,000	64,000	.025167	.003134			
16,500	66,000	.028833	.003666			
17,000	68,000	.032667	.003834			
17,500	70,000	.037500	.004833			
18,000	72,000	.0433	.0058			
18,500	74,000	.0500	.0067			
19,000	76,000	.0567	.0067			
19,500	78,000	.0667	.0100			
20,000	70,000	.0800	.0133			
20,500	82,000	.1100	.0300			
20,560	82,240	.1500	.0400			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,240
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch	0.2[illegible]3
Elongation per inch under strain at elastic limit	do...	.001[illegible]
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		59.2
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		".09, ".16, ".38"

Tube No. 23 8" converted Rifle

Additional specimen



H Ex 31 49 2

No. 1160.

Marks, $\frac{8\ T_3}{B\ T_1}$
Diameter, ".564
Sectional area, .25 square inch.

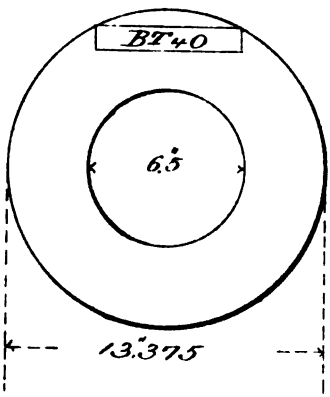
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001200	.000033	.....	.....	
10,000	40,000	.001233	.000033	0.	.....	
10,250	41,000	.001267	.000034	.....	.....	
10,500	42,000	.001300	.000033	.....	.....	
10,750	43,000	.001300	0.	.....	.....	
11,000	44,000	.001333	.000033	.....	.....	
11,250	45,000	.001367	.000034	0.	.....	
11,500	46,000	.001433	.000066	.....	.....	Elastic limit.
11,750	47,000	.001567	.000134	.....	.....	
12,000	48,000	.002333	.000766	.....	.....	
12,250	49,000	.004167	.001834	.....	.....	
12,500	50,000	.005933	.001766	.004200	.004200	
12,750	51,000	.007667	.001134	.....	.....	
13,000	52,000	.008367	.001300	.....	.....	
13,250	53,000	.010000	.001633	.....	.....	
13,500	54,000	.010833	.000833	.....	.....	
13,750	55,000	.011933	.001100	.....	.....	
14,000	56,000	.013167	.001234	.....	.....	
14,250	57,000	.014333	.001166	.....	.....	
14,500	58,000	.015667	.001334	.....	.....	
14,750	59,000	.017400	.001733	.....	.....	
15,000	60,000	.019033	.001633	.....	.....	
15,500	62,000	.022267	.003234	.....	.....	
16,000	64,000	.025667	.003400	.....	.....	
16,500	66,000	.030000	.004333	.....	.....	
17,000	68,000	.034133	.004133	.....	.....	
17,500	70,000	.038933	.004800	.....	.....	
18,000	72,000	.046333	.007400	.....	.....	
18,500	74,000	.053667	.007334	.....	.....	
19,000	76,000	.065000	.011334	.....	.....	
19,500	78,000	.080500	.015500	.....	.....	
19,760	79,040	.1233	.0428	.....	.....	Tensile strength.

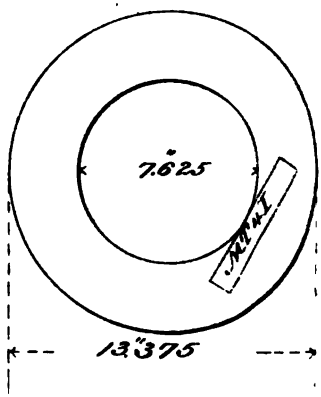
General summary.

Tensile strength per square inch of original section	pounds..	79,040
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.2033
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.094
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		".65 from neck
Character of broken surface, granular; dull spot at circumference; crack ".3 long opened in cylindrical surface of stem.		
Minimum diameter ¼ inch from point of rupture		".43
Elongation of inch sections		".36* ".15, ".10

Tube No. 26 8" converted Rifle

Additional specimens





H Ex 31 49 2

No. 1161.

Marks, $\frac{8\ T_{28}}{B\ T_4\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	Elastic limit.
10,250	41,000	.001400	.000167	.....	.....	
10,500	42,000	.003733	.002333	.....	.....	
10,750	43,000	.004667	.000934	.....	.....	
11,000	44,000	.005833	.001166	.....	.....	
11,250	45,000	.007067	.001234	.005433	.005433	
11,500	46,000	.008000	.000933	.....	.....	
11,750	47,000	.008700	.000700	.....	.....	
12,000	48,000	.009800	.001100	.....	.....	
12,250	49,000	.010833	.001033	.....	.....	
12,500	50,000	.012167	.001334	.010300	.004867	
12,750	51,000	.012800	.000633	.....	.....	
13,000	52,000	.013833	.001033	.....	.....	
13,250	53,000	.015367	.001534	.....	.....	
13,500	54,000	.016767	.001400	.....	.....	
13,750	55,000	.018167	.001400	.....	.....	
14,000	56,000	.019667	.001500	.....	.....	
14,250	57,000	.020833	.001166	.....	.....	
14,500	58,000	.021867	.001034	.....	.....	
14,750	59,000	.023733	.001866	.....	.....	
15,000	60,000	.025400	.001667	.....	.....	
15,500	62,000	.028900	.003500	.....	.....	
16,000	64,000	.032833	.003933	.....	.....	
16,500	66,000	.037500	.004667	.....	.....	
17,000	68,000	.042500	.005000	.....	.....	
17,500	70,000	.048667	.006167	.....	.....	
18,000	72,000	.056167	.007500	.....	.....	
18,500	74,000	.071500	.015333	.....	.....	
19,000	76,000	.0867	.0152	.....	.....	
19,250	77,000	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,000
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.1067
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.044
Reduction in area after rupture, per centum of original section		15.0
Position of rupture		″.85 from neck
Character of broken surface	granular; dull colored metal at the circumference	
Elongation of inch sections		″.14*, ″.10 ″.08

No. 1162.

Marks, $\frac{8\ T_{26}}{M\ T_4\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	.000033	.000033	
2,500	10,000	.000367	.000200	.000067	.000034	
3,750	15,000	.000567	.000200	.000100	.000033	
5,000	20,000	.000733	.000166	.000100	0.	
6,250	25,000	.000833	.000100	.000100	0.	
7,500	30,000	.000933	.000100	.000100	0.	
8,750	35,000	.001100	.000167	.000100	0.	
10,000	40,000	.001200	.000100	.000100	0.	
10,250	41,000	.001267	.000067	.....	.....	
10,500	42,000	.001333	.000066	.....	.....	
10,750	43,000	.001367	.000034	.....	.....	
11,000	44,000	.001400	.000033	.....	.....	
11,250	45,000	.001400	0.	.000100	0.	Elastic limit.
11,500	46,000	.001667	.000267	.....	.....	
11,750	47,000	.001833	.000166	.....	.....	
12,000	48,000	.002333	.000500	.....	.....	
12,250	49,000	.003900	.001567	.....	.....	
12,500	50,000	.005200	.001300	.003567	.003467	
12,750	51,000	.006000	.000800	.....	.....	
13,000	52,000	.006933	.000933	.....	.....	
13,250	53,000	.008033	.001100	.....	.....	
13,500	54,000	.009067	.001034	.....	.....	
13,750	55,000	.010200	.001133	.....	.....	
14,000	56,000	.011167	.000967	.....	.....	
14,250	57,000	.012200	.001033	.....	.....	
14,500	58,000	.013333	.001133	.....	.....	
14,750	59,000	.014667	.001334	.....	.....	
15,000	60,000	.015933	.001266	.....	.....	
15,500	62,000	.018100	.002167	.....	.....	
16,000	64,000	.020500	.002400	.....	.....	
16,500	66,000	.023333	.002833	.....	.....	
17,000	68,000	.026367	.003034	.....	.....	
17,500	70,000	.029667	.003300	.....	.....	
18,000	72,000	.033333	.003666	.....	.....	
18,500	74,000	.038000	.004667	.....	.....	
19,000	76,000	.043167	.005167	.....	.....	
19,500	78,000	.049000	.005833	.....	.....	
20,000	80,000	.058500	.009500	.....	.....	
20,500	82,000	.0700	.0115	.....	.....	
21,000	84,000	.0933	.0233	.....	.....	
21,190	84,760	.1400	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,760
Elastic limit per square inch of original section	do ..	45,000
Elongation per inch after rupture	inch..	0.2233
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.38, ″.18, ″.11

NEW TUBE No. 26.

No. 2359.

Marks, $\frac{8\,T_{x}}{B\,T_{5}\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.050833	.000200	0.	.....	
7,500	30,000	.000933	.000100	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001267	.000167	0.	.....	
10,250	41,000	.001300	.000033	.....	.....	Elastic limit.
10,500	42,000	.009333	.008033	.....	.....	
10,750	43,000	.011000	.001667	.....	.....	
11,000	44,000	.014067	.003067	.....	.....	
11,250	45,000	.015000	.000933	.....	.....	
11,500	46,000	.016900	.005400	.....	.....	
11,750	47,000	.017567	.000667	.....	.....	
12,000	48,000	.019367	.001800	.....	.....	
12,250	49,000	.021333	.001966	.....	.....	
12,500	50,000	.023333	.002000	.....	.....	
13,000	52,000	.027333	.004000	.....	.....	
13,500	54,000	.031667	.004334	.....	.....	
14,000	56,000	.037833	.006166	.....	.....	
14,500	58,000	.044000	.006167	.....	.....	
15,000	60,000	.051167	.007167	.....	.....	
15,500	62,000	.061333	.010166	.....	.....	
16,000	64,000	.073[illegible]	.011967	.....	.....	
16,500	66,000	.0933	.0200	.....	.....	
17,000	68,000	.1267	.0334	.....	.....	
17,160	68,640	.1733	.0466	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	68,640
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2800
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.234
Reduction in area after rupture, per centum of original section		65.8
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.14, ″.20, ″.50

No. 2360.

Marks, $\overset{8\ Ts}{B\ T_s\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000467	.000200	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001300	.000167	0.	.....	
10,250	41,000	.001367	.000067	0.	.....	Elastic limit.
10,500	42,000	.013167	.011800	.....	.....	
10,750	43,000	.013733	.000566	.....	.....	
11,000	44,000	.015167	.001434	.....	.....	
11,250	45,000	.016533	.001366	.....	.....	
11,500	46,000	.018333	.001800	.....	.....	
11,750	47,000	.019667	.001334	.....	.....	
12,000	48,000	.021167	.001500	.....	.....	
12,250	49,000	.023033	.001866	.....	.....	
12,500	50,000	.024833	.001800	.....	.....	
13,000	52,000	.028667	.003834	.....	.....	
13,500	54,000	.033667	.005000	.....	.....	
14,000	56,000	.038333	.004666	.....	.....	
14,500	58,000	.045333	.007000	.....	.....	
15,000	60,000	.052367	.006934	.....	.....	
15,500	62,000	.062167	.009900	.....	.....	
16,000	64,000	.0733	.011133	.....	.....	
16,500	66,000	.0933	.0200	.....	.....	
17,000	68,000	.1233	.0300	.....	.....	
17,300	69,200	.1800	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	69,200
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2367
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.294
Reduction in area after rupture, per centum of original section	do...	50.3
Position of rupture		1".5 from neck
Character of broken surface		silky
Elongation of inch sections		".15, ".50", ".34

No. 2361.

Marks, $\frac{8\ T_{28}}{B\ T_7\ M}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,500	38,000	.001233	.000100	.....	.....	Elastic limit.
9,750	39,000	.001300	.000067	.....	.....	
10,000	40,000	.008333	.007033	.....	.....	
10,250	41,000	.008667	.000334	.....	.....	
10,500	42,000	.009667	.001000	.....	.....	
10,750	43,000	.011000	.001333	.....	.....	
11,000	44,000	.012500	.001500	.....	.....	
11,250	45,000	.014000	.001500	.....	.....	
11,500	46,000	.015667	.001667	.....	.....	
11,750	47,000	.017000	.001333	.....	.....	
12,000	48,000	.018333	.001333	.....	.....	
12,250	49,000	.019667	.001334	.....	.....	
12,500	50,000	.021333	.001666	.....	.....	
13,000	52,000	.025667	.004334	.....	.....	
13,500	54,000	.030667	.005000	.....	.....	
14,000	56,000	.034333	.003666	.....	.....	
14,500	58,000	.040000	.005667	.....	.....	
15,000	60,000	.046667	.006667	.....	.....	
15,500	62,000	.055000	.008333	.....	.....	
16,000	64,000	.0667	.0117	.....	.....	
16,500	66,000	.0800	.0133	.....	.....	
17,000	68,000	.1033	.0233	.....	.....	
17,480	69,920	.1867	.0834	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	69,920
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.3033
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.225
Reduction in area after rupture, per centum of original section		63.7
Position of rupture		1".63 from neck
Character of broken surface		silky
Elongation of inch sections		".22, ".52*, ".17

No. 2362.

Marks, $\overset{8\ Ts}{M\ T_s\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.000967	.000134	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001267	.000134	0.	.....	
10,250	41,000	.001300	.000033	.....	.....	Elastic limit.
10,500	42,000	.002667	.001367	.....	.....	
10,750	43,000	.005400	.002733	.....	.....	
11,000	44,000	.008000	.002600	.....	.....	
11,250	45,000	.008667	.000667	.....	.....	
11,500	46,000	.009900	.001233	.....	.....	
11,750	47,000	.011000	.001100	.....	.....	
12,000	48,000	.012333	.001333	.....	.....	
12,250	49,000	.013333	.001000	.....	.....	
12,500	50,000	.014667	.001334	.....	.....	
13,000	52,000	.017500	.002833	.....	.....	
13,500	54,000	.020667	.003167	.....	.....	
14,000	56,000	.024167	.003500	.....	.....	
14,500	58,000	.027000	.002833	.....	.....	
15,000	60,000	.031000	.004000	.....	.....	
15,500	62,000	.035667	.004667	.....	.....	
16,000	64,000	.040667	.005000	.....	.....	
16,500	66,000	.046500	.005833	.....	.....	
17,000	68,000	.054000	.007500	.....	.....	
17,500	70,000	.063333	.009333	.....	.....	
18,000	72,000	.0767	.013367	.....	.....	
18,500	74,000	.1033	.0266	.....	.....	
18,850	75,400	.1600	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,400
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2467
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		".90 from neck
Character of broken surface		silky
Elongation of inch sections		".44", ".16, ".14

No. 2363.

Marks, $\frac{S\ T_m}{M\ T_s O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000200	.000100	0.	.....	
3,750	15,000	.000333	.000133	0.	.....	
5,000	20,000	.000567	.000234	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001033	.000133	0.	.....	
10,000	40,000	.001267 .003833	.000234 .002566	.000067	.000067	Elastic limit.
10,250	41,000	.005267	.001434	.....	.....	
10,500	42,000	.007333	.002066	.....	.....	
10,750	43,000	.008164	.000834	.....	.....	
11,000	44,000	.009333	.001166	.....	.....	
11,250	45,000	.010133	.000800	.....	.....	
11,500	46,000	.011500	.001367	.....	.....	
11,750	47,000	.012700	.001200	.....	.....	
12,000	48,000	.014000	.001300	.....	.....	
12,250	49,000	.015000	.001000	.....	.....	
12,500	50,000	.017000	.002000	.....	.....	
13,000	52,000	.019667	.002667	.....	.....	
13,500	54,000	.023000	.003333	.....	.....	
14,000	56,000	.026367	.003367	.....	.....	
14,500	58,000	.029933	.003566	.....	.....	
15,000	60,000	.034000	.004067	.....	.....	
15,500	62,000	.039167	.005167	.....	.....	
16,000	64,000	.045000	.005833	.....	.....	
16,500	66,000	.052167	.007167	.....	.....	
17,000	68,000	.060000	.007833	.....	.....	
17,500	70,000	.0767	.0167	.....	.....	
18,000	72,000	.0933	.0166	.....	.....	
18,500	74,000	.1567	.0634	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,000
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2367
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		1″.5 from neck
Character of broken surface		silky
Elongation of inch sections		″.11, ″.32, ″.28

No. 2364.

Marks, $\frac{8\,T_{26}}{M\,T_7\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

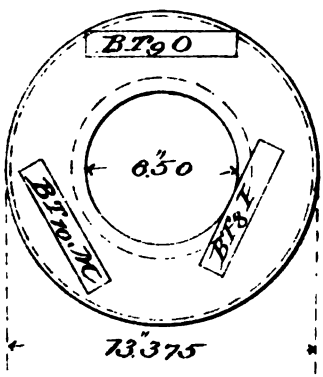
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000600	.000200	0.	.....	
6,250	25,000	.000800	.000200	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001067	.000100	0.	.....	
10,000	40,000	.001200	.000133	0.	.....	Elastic limit.
10,250	41,000	.001367	.000167	.....	.....	
10,500	42,000	.001467	.000100	.....	.....	
10,750	43,000	.004367	.002900	.....	.....	
11,000	44,000	.006400	.002033	.....	.....	
11,250	45,000	.007367	.000967	.....	.....	
11,500	46,000	.008500	.001133	.....	.....	
11,750	47,000	.009667	.001167	.....	.....	
12,000	48,000	.010800	.001133	.....	.....	
12,250	49,000	.012000	.001200	.....	.....	
12,500	50,000	.013333	.001333	.....	.....	
13,000	52,000	.015667	.002334	.....	.....	
13,500	54,000	.018833	.003166	.....	.....	
14,000	56,000	.021667	.002834	.....	.....	
14,500	58,000	.025133	.003466	.....	.....	
15,000	60,000	.029000	.093867	.....	.....	
15,500	62,000	.033000	.004000	.....	.....	
16,000	64,000	.038000	.005000	.....	.....	
16,500	66,000	.042667	.004667	.....	.....	
17,000	68,000	.050000	.007333	.....	.....	
17,500	70,000	.058333	.008333	.....	.....	
18,000	72,000	.070000	.011667	.....	.....	
18,500	74,000	.0900	.0200	.....	.....	
19,000	76,000	.1333	.0433	.....	.....	
19,050	76,200	.1667	.0334	.....	.....	Tensile strength.

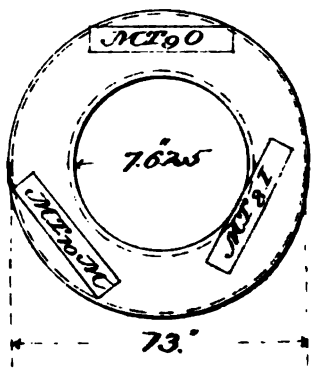
General summary.

Tensile strength per square inch of original section	pounds..	76,200
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001200
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.40″, ″.21, ″.16

New Tube No. 26 8" converted Rifle

Additional specimens





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No. 2594.

Marks, $\frac{8\ T_{25}}{B\ T_8\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000232	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000600	.000200	0.	.....	
6,250	25,000	.000800	.000200	0.	.....	
7,500	30,000	.000933	.000133	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
10,000	40,000	.001267	.000167	.....	.....	
10,250	41,000	.001333	.000066	.....	.....	
10,500	42,000	.001400	.000067	.....	.....	
10,750	43,000	.001467	.000067	.....	.....	Elastic limit.
11,000	44,000	.007500	.006033	.....	.....	
11,250	45,000	.008667	.001167	.....	.....	
11,500	46,000	.009833	.001166	.....	.....	
11,750	47,000	.011367	.001534	.....	.....	
12,000	48,000	.012333	.000966	.....	.....	
12,250	49,000	.013667	.001334	.....	.....	
12,500	50,000	.014833	.001166	.....	.....	
13,000	52,000	.017500	.002667	.....	.....	
13,500	54,000	.020400	.002900	.....	.....	
14,000	56,000	.023333	.002933	.....	.....	
14,500	58,000	.027067	.003734	.....	.....	
15,000	60,000	.031333	.004266	.....	.....	
15,500	62,000	.036667	.005334	.....	.....	
16,000	64,000	.039733	.003066	.....	.....	
16,500	66,000	.0500	.010267	.....	.....	
17,000	68,000	.0600	.0100	.....	.....	
17,500	70,000	.0667	.0067	.....	.....	
18,000	72,000	.0733	.0066	.....	.....	
18,500	74,000	.0933	.0200	.....	.....	
19,000	76,000	.1333	.0400	.....	.....	
19,050	76,200	.1633	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,200
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2433
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.194
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		1″.20 from neck
Character of broken surface		fine, silky
Elongation of inch sections		″.35*, ″.28, ″.12

No. 2595.

Marks, $\frac{8\ T_{00}}{B\ T_{,}O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001267	.000167	.....	.....	
10 250	41,000	.001333	.000066	.....	.....	
10,500	42,000	.001400	.000067	.....	.....	
10,750	43,000	.001467	.000067	.....	.....	Elastic limit.
11,000	44,000	.001667	.000200	.....	.....	
11,250	45,000	.008200	.006533	.....	.....	
11,500	46,000	.009567	.001367	.....	.....	
11,750	47,000	.010067	.000500	.....	.....	
12,000	48,000	.011500	.001433	.....	.....	
12,250	49,000	.012667	.001167	.....	.....	
12,500	50,000	.014367	.001700	.....	.....	
13,000	52,000	.016533	.002166	.....	.....	
13,500	54,000	.019000	.002467	.....	.....	
14,000	56,000	.022500	.003500	.....	.....	
14,500	58,000	.025333	.002833	.....	.....	
15,000	60,000	.029167	.003834	.....	.....	
15,500	62,000	.033333	.004166	.....	.....	
16,000	64,000	.036667	.003334	.....	.....	
16,500	66,000	.042067	.005400	.....	.....	
17,000	68,000	.0500	.007933	.....	.....	
17,500	70,000	.0567	.0067	.....	.....	
18,000	72,000	.0667	.0100	.....	.....	
18,500	74,000	.0767	.0100	.....	.....	
19,000	76,000	.1000	.0233	.....	.....	
19,450	77,800	.1633	.0633	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,800
Elastic limit, per square inch of original section	do ..	43,000
Elongation per inch after rupture	inch..	0.3533
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.294
Reduction in area after rupture, per centum of original section		58.3
Position of rupture		".05 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".15, ".47", ".17

No. 2596.

Marks, $\frac{8\ T_{25}}{B\ T_{10}\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1, 000	0.	0.	0.	0.	Initial load.
1, 250	5, 000	.000133	.000133	0.	.....	
2, 500	10, 000	.000300	000167	0.	.....	
3, 750	15, 000	.000533	.000233	0.	.....	
5, 000	20, 000	.000700	.000167	0.	.....	
6, 250	25, 000	.000900	.000200	0.	.....	
7, 500	30, 000	.001033	.000133	0.	.....	
8, 750	35, 000	.001200	.000167	0.	.....	
10, 000	40, 000	.001367	.000167	.....	.....	
10, 250	41, 000	.001467	.000100	.....	.....	
10, 500	42, 000	.001533	.000066	.....	.....	Elastic limit.
10, 750	43, 000	.001667	.000134	.....	.....	
11, 000	44, 000	.007333	.005666	.....	.....	
11, 250	45, 000	.008700	.001367	.....	.....	
11, 500	46, 000	.009667	.000967	.....	.....	
11, 750	47, 000	.010400	.000733	.....	.....	
12, 000	48, 000	.011433	.001033	.....	.....	
12, 250	49, 000	.012367	.000934	.....	.....	
12, 500	50, 000	.013567	.001200	.....	.....	
13, 000	52, 000	.016000	.002433	.....	.....	
13, 500	54, 000	.019333	.003333	.....	.....	
14, 000	56, 000	.022500	.003167	.....	.....	
14, 500	58, 000	.025067	.002567	.....	.....	
15, 000	60, 000	.028167	.003100	.....	.....	
15, 500	62, 000	.032667	.004500	.....	.....	
16, 000	64, 000	.037667	.005000	.....	.....	
16, 500	66, 000	.042667	.005000	.....	.....	
17, 000	68, 000	.047500	.004833	.....	.....	
17, 500	70, 000	.0567	.0092	.....	.....	
18, 000	72, 000	.0667	.0100	.....	.....	
18, 500	74, 000	.0767	.0100	.....	.....	
19, 000	76, 000	.0933	.0166	.....	.....	
19, 500	78, 000	.1567	.0634	.....	.....	
19, 520	78, 080	.1733	.0166	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78, 080
Elastic limit per square inch of original section	do...	42, 000
Elongation per inch after rupture	inch..	0. 2700
Elongation per inch under strain at elastic limit	do...	.001533
Reduction in diameter at point of rupture	do...	.194
Reduction in area after rupture, per centum of original section		57. 0
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		″.17, ″.47*, ″.17

No. 2597.

Marks, $\frac{8\ T_{26}}{M\ T_{3}\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000767	.000134	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001110	.000167	0.	.....	
10,000	40,000	.001233	.000133	.....	.....	
10,250	41,000	.001300	.000067	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	
11,000	44,000	.001433	.000033	.....	.....	Elastic limit.
11,250	45,000	.001632	.000200	.....	.....	
11,500	46,000	.002100	.000467	.....	.....	
11,750	47,000	.002767	.000667	.....	.....	
12,000	48,000	.003900	.001133	.....	.....	
12,250	49,000	.005064	.001167	.....	.....	
12,500	50,000	.006667	.001600	.....	.....	
13,000	52,000	.008833	.002166	.....	.....	
13,500	54,000	.011000	.002167	.....	.....	
14,000	56,000	.013033	.002033	.....	.....	
14,500	58,000	.015667	.002634	.....	.....	
15,000	60,000	.018000	.002333	.....	.....	
15,500	62,000	.021167	.003167	.....	.....	
16,000	64,000	.024333	.003166	.....	.....	
16,500	66,000	.026833	.002500	.....	.....	
17,000	68,000	.030667	.003834	.....	.....	
17,500	70,000	.034500	.003833	.....	.....	
18,000	72,000	.036000	.003500	.....	.....	
18,500	74,000	.043100	.005100	.....	.....	
19,000	76,000	.0533	.0102	.....	.....	
19,500	78,000	.0633	.0100	.....	.....	
20,000	80,000	.0700	.0067	.....	.....	
20,500	82,000	.0867	.0167	.....	.....	
20,900	83,600	.1267	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,600
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.1867
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		″.95 from neck
Character of broken surface		silky
Elongation of inch sections		″.32*, ″.13, ″.11

No. 2598.

Marks, $\frac{8\,T.}{M\,T.O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000533	.000200	0.	.....	
5,000	20,000	.000700	.000167	0.	.....	
6,250	25,000	.000867	.000167	0.	.....	
7,500	30,000	.001033	.000166	0.	.....	
8,750	35,000	.001233	.000200	0.	.....	
10,000	40,000	.001433	.000200	.....	.....	
10,250	41,000	.001500	.000067	.....	.....	
10,500	42,000	.001567	.000067	.....	.....	Elastic limit.
10,750	43,000	.002167	.000600	.....	.....	
11,000	44,000	.003733	.001566	.....	.....	
11,250	45,000	.005400	.001667	.....	.....	
11,500	46,000	.006567	.001167	.....	.....	
11,750	47,000	.007333	.000766	.....	.....	
12,000	48,000	.008500	.001167	.....	.....	
12,250	49,000	.009000	.000500	.....	.....	
12,500	50,000	.010333	.001333	.....	.....	
13,000	52,000	.012500	.002167	.....	.....	
13,500	54,000	.015167	.002667	.....	.....	
14,000	56,000	.017333	.002166	.....	.....	
14,500	58,000	.019667	.002334	.....	.....	
15,000	60,000	.022667	.003000	.....	.....	
15,500	62,000	.026000	.003333	.....	.....	
16,000	64,000	.029000	.003000	.....	.....	
16,500	66,000	.032333	.003333	.....	.....	
17,000	68,000	.036500	.004167	.....	.....	
17,500	70,000	.040833	.004333	.....	.....	
18,000	72,000	.0467	.005867	.....	.....	
18,500	74,000	.0533	.0066	.....	.....	
19,000	76,000	.0633	.0100	.....	.....	
19,500	78,000	.0733	.0100	.....	.....	
20,000	80,000	.0900	.0167	.....	.....	
20,440	81,760	.1367	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,760
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2233
Elongation per inch under strain at elastic limit	do...	.001567
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".11, ".42, ".14

No. 2599.

Marks, $^{8\ T_{20}}_{M\ T_{10}\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000500	.000100	0.	.....	
6,250	25,000	.000667	.000167	0.	.....	
7,500	30,000	.000867	.000200	0.	.....	
8,750	35,000	.001067	.000200	0.	.....	
10,000	40,000	.001267	.000200	.....	.....	
10,250	41,000	.001333	.000066	.....	.....	
10,500	42,000	.001400	.000067	.....	.....	Elastic limit.
10,750	43,000	.001867	.000467	.....	.....	
11,000	44,000	.002967	.001100	.....	.....	
11,250	45,000	.003733	.000766	.....	.....	
11,500	46,000	.004367	.000634	.....	.....	
11,750	47,000	.005700	.001333	.....	.....	
12,000	48,000	.006833	.001133	.....	.....	
12,250	49,000	.008200	.001367	.....	.....	
12,500	50,000	.009533	.001333	.....	.....	
13,000	52,000	.011667	.002134	.....	.....	
13,500	54,000	.014033	.002366	.....	.....	
14,000	56,000	.016333	.002300	.....	.....	
14,500	58,000	.018833	.002500	.....	.....	
15,000	60,000	.021500	.002667	.....	.....	
15,500	62,000	.024500	.003000	.....	.....	
16,000	64,000	.027667	.003167	.....	.....	
16,500	66,000	.031333	.003666	.....	.....	
17,000	68,000	.035000	.003667	.....	.....	
17,500	70,000	.039167	.004167	.....	.....	
18,000	72,000	.044667	.005500	.....	.....	
18,500	74,000	.0533	.008633	.....	.....	
19,000	76,000	.0633	.0100	.....	.....	
19,500	78,000	.0700	.0067	.....	.....	
20,000	80,000	.0933	.0233	.....	.....	
20,410	81,640	.1333	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,640
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2267
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		".05 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".11 ".38 ".19

No. 2487.

Marks, $\frac{8\,Tw}{B\,T,\,I}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000933	.000133	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	Elastic limit.
9,500	38,000	.012133	.010966	.....	.....	
9,750	39,000	.012667	.000534	.....	.....	
10,000	40,000	.013567	.000900	.....	.....	
10,250	41,000	.014200	.000633	.....	.....	
10,500	42,000	.015567	.001367	.....	.....	
10,750	43,000	.016667	.001100	.....	.....	
11,000	44,000	.018500	.001833	.....	.....	
11,250	45,000	.019667	.001167	.....	.....	
11,500	46,000	.021600	.001933	.....	.....	
11,750	47,000	.023033	.001433	.....	.....	
12,000	48,000	.025000	.001967	.....	.....	
12,250	49,000	.026333	.001333	.....	.....	
12,500	50,000	.028333	.002000	.....	.....	
13,000	52,000	.032500	.004167	.....	.....	
13,500	54,000	.038000	.005500	.....	.....	
14,000	56,000	.043100	.005100	.....	.....	
14,500	58,000	.049667	.006567	.....	.....	
15,000	60,000	.057500	.007833	.....	.....	
15,500	62,000	.0667	.0092	.....	.....	
16,000	64,000	.0800	.0133	.....	.....	
16,500	66,000	.0967	.0167	.....	.....	
17,000	68,000	.1333	.0366	.....	.....	
17,180	68,720	.1800	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	68,720
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2433
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do..	.085
Reduction in area after rupture, per centum of original section		27.6

Position of rupture ..... 1".24 from neck
Character of broken surface, granular; flaky spot at circumference; opened numerous cracks in surface of stem.
Elongation of inch sections ..... ".22, ".31*, ".20

No. 2488.

Marks, $\frac{8\,T_{27}}{B\,T_2\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	—.000067	—.000067	
2,500	10,000	.000233	.000133	—.000067	0.	
3,750	15,000	.000367	.000134	—.000067	0.	
5,000	20,000	.000500	.000133	—.000100	—.000033	
6,250	25,000	.000667	.000167	—.000100	0.	
7,500	30,000	.000800	.000133	—.000133	—.000033	
8,750	35,000	.001000	.000200	.....	.....	
9,000	36,000	.001067	.000067	.....	.....	
9,250	37,000	.001100	.000033	.....	.....	
9,500	38,000	.001133	.000033	.....	.....	
9,750	39,000	.001167	.000034	.....	.....	Elastic limit.
10,000	40,000	.012333	.011166	.....	.....	
10,250	41,000	.012833	.000500	.....	.....	
10,500	42,000	.013333	.000500	.....	.....	
10,750	43,000	.014100	.000767	.....	.....	
11,000	44,000	.015667	.001567	.....	.....	
11,250	45,000	.016900	.001233	.....	.....	
11,500	46,000	.018167	.001267	.....	.....	
11,750	47,000	.019567	.001400	.....	.....	
12,000	48,000	.021000	.001433	.....	.....	
12,250	49,000	.022167	.001167	.....	.....	
12,500	50,000	.024000	.001833	.....	.....	
13,000	52,000	.027867	.003867	.....	.....	
13,500	54,000	.031667	.003800	.....	.....	
14,000	56,000	.035667	.004000	.....	.....	
14,500	58,000	.040400	.004733	.....	.....	
15,000	60,000	.046667	.006267	.....	.....	
15,500	62,000	.052333	.005666	.....	.....	
16,000	64,000	.059667	.007334	.....	.....	
16,500	66,000	.0700	.010333	.....	.....	
17,000	68,000	.0833	.0133	.....	.....	
17,500	70,000	.1033	.0200	.....	.....	
18,000	72,000	.1600	.0567	.....	.....	
18,020	72,080	.1900	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,0[illegible]
Elastic limit per square inch of original section	do...	39,0[illegible]
Elongation per inch after rupture	inch..	0.2[illegible]
Elongation per inch under strain at elastic limit	do ..	.001167
Reduction in diameter at point of rupture	do...	164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture	at middle of stem	
Character of broken surface		silky
Elongation of inch sections		″.17, ″.45, ″.19

No. 2489.

Marks, $\frac{8\ T_{27}}{B\ T_3\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000700	.000200	0.	.....	
6,250	25,000	.000867	.000167	0.	.....	
7,500	30,000	.001000	.000133	.000033	.000033	
8,750	35,000	.001100	.000100	.....	.....	
9,000	36,000	.001167	.000067	.....	.....	
9,250	37,000	.001300	.000133	.....	.....	
9,500	38,000	.001333	.000033	.....	.....	
9,750	39,000	.001433	.000100	.....	.....	Elastic limit.
10,000	40,000	.008367	.006934	.....	.....	
10,250	41,000	.009000	.000633	.....	.....	
10,500	42,000	.010167	.001167	.....	.....	
10,750	43,000	.011033	.000866	.....	.....	
11,000	44,000	.012667	.001634	.....	.....	
11,250	45,000	.014000	.001333	.....	.....	
11,500	46,000	.015267	.001267	.....	.....	
11,750	47,000	.016167	.000900	.....	.....	
12,000	48,000	.017700	.001533	.....	.....	
12,250	49,000	.019000	.001300	.....	.....	
12,500	50,000	.020700	.001700	.....	.....	
13,000	52,000	.024000	.003300	.....	.....	
13,500	54,000	.027700	.003700	.....	.....	
14,000	56,000	.031400	.003700	.....	.....	
14,500	58,000	.036000	.004600	.....	.....	
15,000	60,000	.041167	.005167	.....	.....	
15,500	62,000	.046667	.005500	.....	.....	
16,00	64,000	.054000	.007333	.....	.....	
16,500	66,000	.0667	.0127	.....	.....	
17,000	68,000	.0767	.0100	.....	.....	
17,500	70,000	.1033	.0266	.....	.....	
18,000	72,000	.1600	.0567	.....	.....	
18,020	72,080	.1733	.0133	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,080
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2867
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section	...	54.6
Position of rupture		1″.65 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		″.17, ″.49*, ″.20

No. 2490.

Marks, $\frac{8\ T_{27}}{M\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001200	.000067	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	Elastic limit.
10,000	40,000	.004067	.002767	.....	.....	
10,250	41,000	.006667	.002600	.....	.....	
10,500	42,000	.008000	.001333	.....	.....	
10,750	43,000	.009000	.001000	.....	.....	
11,000	44,000	.009933	.000933	.....	.....	
11,250	45,000	.010667	.000734	.....	.....	
11,500	46,000	.012333	.001666	.....	.....	
11,750	47,000	.013333	.001000	.....	.....	
12,000	48,000	.014500	.001167	.....	.....	
12,250	49,000	.015423	.000933	.....	.....	
12,500	50,000	.017067	.001634	.....	.....	
13,000	52,000	.019733	.002666	.....	.....	
13,500	54,000	.022667	.002934	.....	.....	
14,000	56,000	.026000	.003333	.....	.....	
14,500	58,000	.029333	.003333	.....	.....	
15,000	60,000	.033167	.003834	.....	.....	
15,500	62,000	.037667	.004500	.....	.....	
16,000	64,000	.041667	.004000	.....	.....	
16,500	66,000	.049000	.007333	.....	.....	
17,000	68,000	.056333	.007333	.....	.....	
17,500	70,000	.0667	.010367	.....	.....	
18,000	72,000	.0767	.0100	.....	.....	
18,500	74,000	.1000	.0233	.....	.....	
18,880	75,520	.1433	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,520
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do ..	.164
Reduction in area after rupture, per centum of original section	..	49.7
Position of rupture		1″.4 from neck
Character of broken surface		silky
Elongation of inch sections		″.21, ″.25°, ″.13

No. 2491.

Marks, $\frac{S\ T_W}{M\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001033	.000133	.....	.....	
9,000	36,000	.001067	.000034	.....	.....	
9,250	37,000	.001100	.000033	.....	.....	
9,500	38,000	.001133	.000033	.....	.....	
9,750	39,000	.001167	.000034	.....	.....	
10,000	40,000	.001200	.000033	.....	.....	
10,250	41,000	.001233	.000033	.....	.....	Elastic limit.
10,500	42,000	.001400	.000167	.....	.....	
10,750	43,000	.005167	.003767	.....	.....	
11,000	44,000	.006000	.000833	.....	.....	
11,250	45,000	.007333	.001333	.....	.....	
11,500	46,000	.007833	.000500	.....	.....	
11,750	47,000	.008767	.000934	.....	.....	
12,000	48,000	.010333	.001566	.....	.....	
12,250	49,000	.011667	.001334	.....	.....	
12,500	50,000	.012900	.001233	.....	.....	
13,000	52,000	.015833	.002933	.....	.....	
13,500	54,000	.017667	.001834	.....	.....	
14,000	56,000	.020733	.003066	.....	.....	
14,500	58,000	.023500	.002767	.....	.....	
15,000	60,000	.026667	.002167	.....	.....	
15,500	62,000	.030000	.003333	.....	.....	
16,000	64,000	.033833	.003833	.....	.....	
16,500	66,000	.038500	.004667	.....	.....	
17,000	68,000	.043333	.004833	.....	.....	
17,500	70,000	.050000	.006667	.....	.....	
18,000	72,000	.0600	.0100	.....	.....	
18,500	74,000	.0667	.0067	.....	.....	
19,000	76,000	.0800	.0133	.....	.....	
19,500	78,000	.1267	.0467	.....	.....	
19,780	79,120	.1667	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,120
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		1".45 from neck
Character of broken surface		silky
Elongation of inch sections		".16, ".42", ".20

No. 2492.

Marks, $^{8\ T_2}_{M\ T_2\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000433	.000200	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001200	.000100	.....	.....	
9,250	37,000	.001300	.000100	.....	.....	
9,500	38,000	.001333	.000033	.....	.....	
9,750	39,000	.001333	0.	.....	.....	
10,000	40,000	.001367	.000034	.....	.....	
10,250	41,000	.001400	.000033	.....	.....	Elastic limit.
10,500	42,000	.001533	.000133	.....	.....	
10,750	43,000	.001600	.000067	.....	.....	
11,000	44,000	.002500	.000900	.....	.....	
11,250	45,000	.003767	.001267	.....	.....	
11,500	46,000	.005333	.001566	.....	.....	
11,750	47,000	.007100	.001767	.....	.....	
12,000	48,000	.008833	.001733	.....	.....	
12,250	49,000	.009667	.000834	.....	.....	
12,500	50,000	.010667	.001000	.....	.....	
13,000	52,000	.013267	.002600	.....	.....	
13,500	54,000	.015200	.001933	.....	.....	
14,000	56,000	.017667	.002467	.....	.....	
14,500	58,000	.020700	.003033	.....	.....	
15,000	60,000	.023400	.002700	.....	.....	
15,500	62,000	.026567	.003167	.....	.....	
16,000	64,000	.029500	.002933	.....	.....	
16,500	66,000	.033333	.003833	.....	.....	
17,000	68,000	.037533	.004200	.....	.....	
17,500	70,000	.042400	.004867	.....	.....	
18,000	72,000	.048667	.006267	.....	.....	
18,500	74,000	.055333	.006666	.....	.....	
19,000	76,000	.0633	.007967	.....	.....	
19,500	78,000	.0800	.0167	.....	.....	
20,000	80,000	.1067	.0267	.....	.....	
20,200	80,800	.1467	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	80,[illegible]
Elastic limit per square inch of original section	do	41,[illegible]
Elongation per inch after rupture	inch	0.[illegible]
Elongation per inch under strain at elastic limit	do	.001[illegible]
Reduction in diameter at point of rupture	do	.11[illegible]
Reduction in area after rupture, per centum of original section		38.[illegible]
Position of rupture		″.65 from neck
Character of broken surface		silky
Elongation of inch sections		″.36, ″.17, ″.11

[Additional specimens.]

No. 2636.

Marks, $\frac{8\ C_a\ R_{27}\ T}{B\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000467	.000200	0.	.....	
5,000	20,000	.000600	.000133	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001167	.000067	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001300	.000033	.....	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001433	.000100	.....	.....	Elastic limit.
10,750	43,000	.002333	.000900	.....	.....	
11,000	44,000	.003667	.001334	.....	.....	
11,250	45,000	.005667	.002000	.....	.....	
11,500	46,000	.007200	.001533	.....	.....	
11,750	47,000	.008167	.000967	.....	.....	
12,000	48,000	.009400	.001233	.....	.....	
12,500	50,000	.011500	.002100	.....	.....	
13,000	52,000	.013833	.002333	.....	.....	
13,500	54,000	.016533	.002700	.....	.....	
14,000	56,000	.019000	.002467	.....	.....	
14,500	58,000	.022000	.003000	.....	.....	
15,000	60,000	.025167	.003167	.....	.....	
15,500	62,000	.028933	.003766	.....	.....	
16,000	64,000	.032667	.003734	.....	.....	
16,500	66,000	.037067	.004400	.....	.....	
17,000	68,000	.042167	.005100	.....	.....	
17,500	70,000	.0500	.007833	.....	.....	
18,000	72,000	.0600	.0100	.....	.....	
18,500	74,000	.0667	.0067	.....	.....	
19,000	76,000	.0800	.0133	.....	.....	
19,500	78,000	.1200	.0400	.....	.....	
19,580	78,320	.1400	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,320
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		§ inch from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".12, ".15, ".33*

No. 2637.

Marks, $\frac{8\ Cn\ R_2\ T}{B\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.		
2,500	10,000	.000233	.000133	0.		
3,750	15,000	.000400	.000167	0.		
5,000	20,000	.000567	.000167	0.		
6,250	25,000	.000733	.000166	0.		
7,500	30,000	.000900	.000167	0.		
8,750	35,000	.001100	.000200			
9,000	36,000	.001133	.000033			
9,250	37,000	.001167	.000034			
9,500	38,000	.001233	.000066			
9,750	39,000	.001300	.000067			Elastic limit.
10,000	40,000	.001467	.000167			
10,250	41,000	.003733	.002266			
10,500	42,000	.005333	.001600			
10,750	43,000	.006233	.000900			
11,000	44,000	.007333	.001100			
11,250	45,000	.008233	.000900			
11,500	46,000	.009767	.001534			
12,000	48,000	.011667	.001900			
12,500	50,000	.014500	.002833			
13,000	52,000	.017000	.002500			
13,500	54,000	.019167	.002167			
14,000	56,000	.021800	.002633			
14,500	58,000	.025000	.003200			
15,000	60,000	.028833	.003833			
15,500	62,000	.032667	.003834			
16,000	64,000	.037333	.004666			
16,500	66,000	.0433	.005967			
17,000	68,000	.0533	.0100			
17,500	70,000	.0600	.0067			
18,000	72,000	.0667	.0067			
18,500	74,000	.0767	.0100			
19,000	76,000	.1000	.0233			
19,380	77,520	.1733	.0733			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,520
Elastic limit per square inch of original section	do ..	39,000
Elongation per inch after rupture	inch..	0.2667
Elongation per inch under strain at elastic limit	do ..	.001300
Reduction in diameter at point of rupture	do ..	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1¼ inches from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".28, ".38", ".16

No. 2638.

Marks, $\frac{S\ Cn\ Rev\ T}{B\ T.\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000767	.000134	0.	.....	
7,500	30,000	.000967	.000200	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
9,000	36,000	.001200	.000067	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	
10,000	40,000	.001367	.000067	.....	.....	Elastic limit.
10,250	41,000	.003667	.002300	.....	.....	
10,500	42,000	.006500	.002833	.....	.....	
10,750	43,000	.007433	.000933	.....	.....	
11,000	44,000	.008467	.001034	.....	.....	
11,250	45,000	.009433	.000966	.....	.....	
11,500	46,000	.010433	.001000	.....	.....	
12,000	48,000	.012600	.002167	.....	.....	
12,500	50,000	.015200	.002600	.....	.....	
13,000	52,000	.017833	.002633	.....	.....	
13,500	54,000	.020267	.002434	.....	.....	
14,000	56,000	.023000	.002733	.....	.....	
14,500	58,000	.026167	.003167	.....	.....	
15,000	60,000	.029567	.003400	.....	.....	
15,500	62,000	.033333	.003766	.....	.....	
16,000	64,000	.038000	.004667	.....	.....	
16,500	66,000	.0433	.0053	.....	.....	
17,000	68,000	.0500	.0067	.....	.....	
17,500	70,000	.0600	.0100	.....	.....	
18,000	72,000	.0667	.0067	.....	.....	
18,500	74,000	.0833	.0166	.....	.....	
19,000	76,000	.1067	.0234	.....	.....	
19,310	77,240	.1633	.0566	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,240
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch .	0.2567
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1".50 from neck
Character of broken surface		silky
Elongation of inch sections		".19, ".42,* ".16

No. 2639

Marks, $\frac{8\ Cn\ R_{27}\ T}{M\ T_4\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001100	0.	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001200	.000067	.....	.....	
9,750	39,000	.001267	.000067	.....	.....	
10,000	40,000	.001300	.000033	.....	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	
10,750	43,000	.001433	.000066	.....	.....	Elastic limit.
11,000	44,000	.003533	.002100	.....	.....	
11,250	45,000	.005333	.001800	.....	.....	
11,500	46,000	.006667	.001334	.....	.....	
12,000	48,000	.008933	.002266	.....	.....	
12,500	50,000	.011333	.002400	.....	.....	
13,000	52,000	.013333	.002000	.....	.....	
13,500	54,000	.015833	.002500	.....	.....	
14,000	56,000	.018333	.002500	.....	.....	
14,500	58,000	.021333	.003000	.....	.....	
15,000	60,000	.024333	.003000	.....	.....	
15,500	62,000	.027733	.003400	.....	.....	
16,000	64,000	.031333	.003600	.....	.....	
16,500	66,000	.035500	.004167	.....	.....	
17,000	68,000	.040500	.005000	.....	.....	
17,500	70,000	.0433	.0028	.....	.....	
18,000	72,000	.0533	.0100	.....	.....	
18,500	74,000	.0667	.0134	.....	.....	
19,000	76,000	.0767	.0100	.....	.....	
19,500	78,000	.1067	.0300	.....	.....	
19,600	78,400	.1333	.0266	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	78,400
Elastic limit per square inch of original section	do	43,000
Elongation per inch after rupture	inch	0.2003
Elongation per inch under strain at elastic limit	do	.001433
Reduction in diameter at point of rupture	do	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		″.85 from neck
Character of broken surface		silky
Elongation of inch sections		″.37″, ″.14, ″.10

No. 2640.

Marks, $\frac{8\ Cn\ R_2\ T}{M\ T_5\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000833	.000200	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	.....	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	
10,000	40,000	.001367	.000067	.....	.....	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001433	.000033	.....	.....	
10,750	43,000	.001500	.000067	.....	.....	Elastic limit.
11,000	44,000	.001667	.000167	.....	.....	
11,250	45,000	.002333	.000666	.....	.....	
11,500	46,000	.003333	.001000	.....	.....	
11,750	47,000	.005667	.002334	.....	.....	
12,000	48,000	.007333	.001666	.....	.....	
12,250	49,000	.007900	.000567	.....	.....	
12,500	50,000	.009000	.001100	.....	.....	
13,000	52,000	.011200	.002200	.....	.....	
13,500	54,000	.013267	.002067	.....	.....	
14,000	56,000	.015333	.002066	.....	.....	
14,500	58,000	.017833	.002500	.....	.....	
15,000	60,000	.020333	.002500	.....	.....	
15,500	62,000	.023333	.003000	.....	.....	
16,000	64,000	.026000	.002667	.....	.....	
16,500	66,000	.029667	.003667	.....	.....	
17,000	68,000	.033000	.003333	.....	.....	
17,500	70,000	.037500	.004500	.....	.....	
18,000	72,000	.0433	.0058	.....	.....	
18,500	74,000	.0500	.0067	.....	.....	
19,000	76,000	.0567	.0067	.....	.....	
19,500	78,000	.0667	.0100	.....	.....	
20,000	80,000	.0800	.0133	.....	.....	
20,500	82,000	.1067	.0267	.....	.....	
20,610	82,440	.1400	.0333	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,440
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.1933
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		½ inch from neck
Character of broken surface	granular, 70 per centum; silky, 30 per centum	
Elongation of inch sections		".12, ".14, ".32

No. 2641.

Marks, $\frac{8\ Cn\ R_{27}\ T}{M\ T_6\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

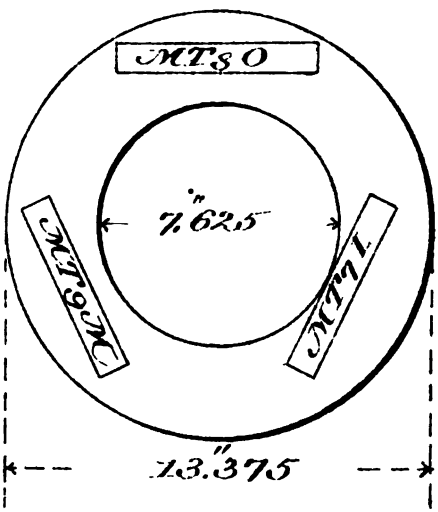
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001133	.000200	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	
10,000	40,000	.001333	.000033	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	Elastic limit.
11,000	44,000	.001600	.000167	.....	.....	
11,250	45,000	.002200	.000600	.....	.....	
11,500	46,000	.003733	.001533	.....	.....	
11,750	47,000	.005400	.001667	.....	.....	
12,000	48,000	.006767	.001367	.....	.....	
12,250	49,000	.007667	.000900	.....	.....	
12,500	50,000	.008667	.001000	.....	.....	
13,000	52,000	.010833	.002166	.....	.....	
13,500	54,000	.013500	.002667	.....	.....	
14,000	56,000	.015500	.002000	.....	.....	
14,500	58,000	.017667	.002167	.....	.....	
15,000	60,000	.020333	.002666	.....	.....	
15,500	62,000	.023033	.002700	.....	.....	
16,000	64,000	.026000	.002967	.....	.....	
16,500	66,000	.029333	.003333	.....	.....	
17,000	68,000	.033000	.003667	.....	.....	
17,500	70,000	.037167	.004167	.....	.....	
18,000	72,000	.0433	.006133	.....	.....	
18,500	74,000	.0500	.0067	.....	.....	
19,000	76,000	.0567	.0067	.....	.....	
19,500	78,000	.0667	.0100	.....	.....	
20,000	80,000	.0833	.0166	.....	.....	
20,500	82,000	.1067	.0234	.....	.....	
20,570	82,280	.1300	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,280
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.1500
Elongation per inch under strain at elastic limit	do...	.00143[illegible]
Reduction in diameter at point of rupture	do...	.084
Reduction in area after rupture, per centum of original section		27.6
Position of rupture		″.70 from neck
Character of broken surface, granular; dull spot at circumference; opened cracks in surface of stem		
Elongation of inch sections		″.21°, ″.13, ″.11

Tube No. 27 8" converted Rifle

Additional specimens



H Ex 31 492

No. 2692.

Marks, $\frac{S\ R_W\ T}{M\ T_r\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001000	.000200	0.	.....	
8,750	35,000	.001167	.000167	.....	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	
10,000	40,000	.001333	.000033	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001433	.000066	.....	.....	Elastic limit.
10,750	43,000	.001600	.000167	.....	.....	
11,000	44,000	.001767	.000167	.....	.....	
11,250	45,000	.002533	.000766	.....	.....	
11,500	46,000	.003733	.001200	.....	.....	
11,750	47,000	.005500	.001767	.....	.....	
12,000	48,000	.007000	.001500	.....	.....	
12,250	49,000	.008000	.001000	.....	.....	
12,500	50,000	.009000	.001000	.....	.....	
13,000	52,000	.011000	.002000	.....	.....	
13,500	54,000	.013000	.002000	.....	.....	
14,000	56,000	.015233	.002233	.....	.....	
14,500	58,000	.017667	.002434	.....	.....	
15,000	60,000	.020267	.002600	.....	.....	
15,500	62,000	.023000	.002733	.....	.....	
16,000	64,000	.026000	.003000	.....	.....	
16,500	66,000	.029267	.003566	.....	.....	
17,000	68,000	.032833	.004500	.....	.....	
17,500	70,000	.037333	.004500	.....	.....	
18,000	72,000	.041833	.004500	.....	.....	
18,500	74,000	.0500	.008167	.....	.....	
19,000	76,000	.0600	.0100	.....	.....	
19,500	78,000	.0667	.0067	.....	.....	
20,000	80,000	.0800	.0133	.....	.....	
20,500	82,000	.1000	.0200	.....	.....	
20,720	82,880	.1467	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,880
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2267
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section	.....	47.2
Position of rupture		1".26 from neck
Character of broken surface		silky
Elongation of inch sections		".26*, ".29*, ".13

No. 2693.

Marks, $\frac{8\,Cn\,R_{27}\,T}{M\,T_3\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	.....	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001300	.000067	.....	.....	
9,750	39,000	.001367	.000067	.....	.....	
10,000	40,000	.001400	.000033	.....	.....	
10,250	41,000	.001433	.000033	.....	.....	
10,500	42,000	.001500	.000067	.....	.....	
10,750	43,000	.001533	.000033	.....	.....	
11,000	44,000	.001600	.000067	.....	.....	
11,250	45,000	.001667	.000067	.....	.....	Elastic limit.
11,500	46,000	.005333	.003666	.....	.....	
11,750	47,000	.006067	.000734	.....	.....	
12,000	48,000	.007233	.001166	.....	.....	
12,250	49,000	.008167	.000934	.....	.....	
12,500	50,000	.009333	.001166	.....	.....	
13,000	52,000	.010867	.001534	.....	.....	
13,500	54,000	.013333	.002466	.....	.....	
14,000	56,000	.015833	.002500	.....	.....	
14,500	58,000	.018333	.002500	.....	.....	
15,000	60,000	.020700	.002367	.....	.....	
15,500	62,000	.023400	.002700	.....	.....	
16,000	64,000	.026333	.002933	.....	.....	
16,500	66,000	.029833	.003500	.....	.....	
17,000	68,000	.033533	.003700	.....	.....	
17,500	70,000	.038067	.004534	.....	.....	
18,000	72,000	.041667	.003600	.....	.....	
18,500	74,000	.0500	.008333	.....	.....	
19,000	76,000	.0600	.0100	.....	.....	
19,500	78,000	.0667	.0067	.....	.....	
20,000	80,000	.0833	.0166	.....	.....	
20,500	82,000	.1100	.0267	.....	.....	
20,680	82,720	.1567	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	82,7[illegible]
Elastic limit per square inch of original section	do	45,0[illegible]
Elongation per inch after rupture	inch	0.2[illegible]
Elongation per inch under strain at elastic limit	do	.001[illegible]
Reduction in diameter at point of rupture	do	.16[illegible]
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		″.90 from neck
Character of broken surface		silky
Elongation of inch sections		″.38*, ″.19, ″.1[illegible]

No. 2694.

Marks, $\frac{\text{S Cu R}\pi\text{ T}}{\text{M T, M}}$
Diameter, ".564.
Sectional area, .25 square inch.

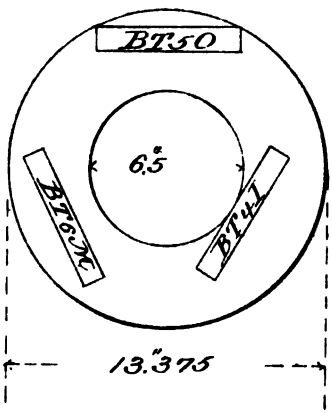
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000533	.000200	0.	.....	
5,000	20,000	.000700	.000167	0.	.....	
6,250	25,000	.000867	.000167	0.	.....	
7,500	30,000	.001033	.000166	0.	.....	
8,750	35,000	.001200	.000167	.....	.....	
9,000	36,000	.001233	.000033	.....	.....	
9,250	37,000	.001267	.000034	.....	.....	
9,500	38,000	.001300	.000033	.....	.....	
9,750	39,000	.001367	.000067	.....	.....	
10,000	40,000	.001400	.000033	.....	.....	
10,250	41,000	.001500	.000100	.....	.....	Elastic limit.
10,500	42,000	.001633	.000133	.....	.....	
10,750	43,000	.002833	.001200	.....	.....	
11,000	44,000	.006000	.003167	.....	.....	
11,250	45,000	.007167	.001167	.....	.....	
11,500	46,000	.008000	.000833	.....	.....	
11,750	47,000	.008800	.000800	.....	.....	
12,000	48,000	.009833	.001033	.....	.....	
12,250	49,000	.011000	.001167	.....	.....	
12,500	50,000	.011933	.000933	.....	.....	
13,000	52,000	.013900	.001967	.....	.....	
13,500	54,000	.016167	.002267	.....	.....	
14,000	56,000	.018667	.002500	.....	.....	
14,500	58,000	.021367	.002700	.....	.....	
15,000	60,000	.024267	.002900	.....	.....	
15,500	62,000	.027233	.002966	.....	.....	
16,000	64,000	.030933	.003700	.....	.....	
16,500	66,000	.034833	.003900	.....	.....	
17,000	68,000	.039667	.004834	.....	.....	
17,500	70,000	.044733	.005066	.....	.....	
18,000	72,000	.0533	.008567	.....	.....	
18,500	74,000	.0633	.0100	.....	.....	
19,000	76,000	.0733	.0100	.....	.....	
19,500	78,000	.0900	.0167	.....	.....	
20,000	80,000	.1300	.0400	.....	.....	
20,050	80,200	.1533	.0233	.....	.....	Tensile strength.

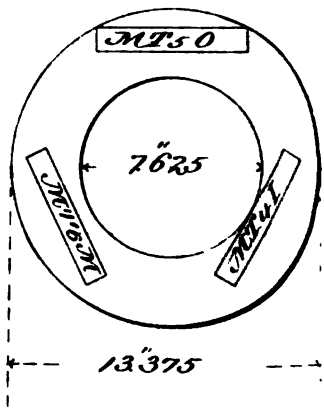
General summary.

Tensile strength per square inch of original section	pounds..	80,200
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.1600
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.054
Reduction in area after rupture, per centum of original section		18.3
Position of rupture		1".50 from neck
Character of broken surface		granular; radiating from a flaky spot at circumference
Elongation of inch sections		".13, ".20, ".15

Tube No. 32 8" converted Rifle

Additional specimens





H Ex 31 49 2

No. 1683.

Marks, $\frac{S\ T}{B\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	—.000033	—.000033	
2,500	10,000	.000200	.000100	—.000033	0.	
3,750	15,000	.000300	.000100	—.000033	0.	
5,000	20,000	.000433	.000133	—.000033	0.	
6,250	25,000	.000600	.000167	—.000033	0.	
7,500	30,000	.000800	.000200	—.000033	0.	
8,750	35,000	.000967	.000167	—.000033	0.	
9,000	36,000	.001033	.000066	.....	.....	
9,250	37,000	.001067	.000034	.....	.....	
9,500	38,000	.001100	.000033	.....	.....	Elastic limit.
9,750	39,000	.002367	.001267	.....	.....	
10,000	40,000	.005133	.002766	.003633	.003666	
10,250	41,000	.005700	.000567	.....	.....	
10,500	42,000	.006533	.000833	.....	.....	
10,750	43,000	.007600	.001067	.....	.....	
11,000	44,000	.008767	.001167	.....	.....	
11,250	45,000	.009633	.000866	.007983	.004300	
11,500	46,000	.010833	.001200	.....	.....	
11,750	47,000	.011933	.001100	.....	.....	
12,000	48,000	.013000	.001067	.....	.....	
12,250	49,000	.014133	.001233	.....	.....	
12,500	50,000	.015367	.001264	.....	.....	
12,750	51,000	.016667	.001300	.....	.....	
13,000	52,000	.018100	.001433	.....	.....	
13,250	53,000	.019367	.001267	.....	.....	
13,500	54,000	.020733	.001366	.....	.....	
13,750	55,000	.022033	.001300	.....	.....	
14,000	56,000	.024133	.002100	.....	.....	
14,250	57,000	.025733	.001600	.....	.....	
14,500	58,000	.027500	.001767	.....	.....	
14,750	59,000	.029033	.001533	.....	.....	
15,000	60,000	.031333	.002300	.....	.....	
15,500	62,000	.035833	.004500	.....	.....	
16,000	64,000	.040867	.005034	.....	.....	
16,500	66,000	.047333	.006466	.....	.....	
17,000	68,000	.054833	.007500	.....	.....	
17,500	70,000	.0667	.011867	.....	.....	
18,000	72,000	.0767	.0100	.....	.....	
18,500	74,000	.0967	.0200	.....	.....	
18,990	75,960	.1633	.0666	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,960
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0 2600
Elongation per inch under strain at elastic limit	do...	.001100
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		".60 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".31*, ".32*, ".15

No. 1684.

Marks, $\frac{S\ Ts}{B\ Ts\ O}$
Diameter, ″.563.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	0.	.....	
2,500	10,000	.000267	.000200	0.	.....	
3,750	15,000	.000367	.000100	0.	.....	
5,000	20,000	.000567	.000200	0.	.....	
6,250	25,000	.000767	.000200	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	Elastic limit.
9,500	38,000	.002833	.001666	.....	.....	
9,750	39,000	.005100	.002267	.....	.....	
10,000	40,000	.006400	.001300	.004933	.004933	
10,250	41,000	.007633	.001233	.....	.....	
10,500	42,000	.008233	.000600	.....	.....	
10,750	43,000	.009200	.000967	.....	.....	
11,000	44,000	.010400	.001200	.....	.....	
11,250	45,000	.011233	.000833	.009567	.004634	
11,500	46,000	.012500	.001267	.....	.....	
11,750	47,000	.013033	.000533	.....	.....	
12,000	48,000	.014333	.001300	.....	.....	
12,250	49,000	.015300	.000967	.....	.....	
12,500	50,000	.016667	.001367	.....	.....	
12,750	51,000	.018000	.001333	.....	.....	
13,000	52,000	.019500	.001500	.....	.....	
13,250	53,000	.020667	.001167	.....	.....	
13,500	54,000	.022333	.001666	.....	.....	
13,750	55,000	.023500	.001167	.....	.....	
14,000	56,000	.025333	.001833	.....	.....	
14,250	57,000	.026667	.001334	.....	.....	
14,500	58,000	.028800	.002133	.....	.....	
14,750	59,000	.030400	.001600	.....	.....	
15,000	60,000	.032367	.001967	.....	.....	
15,500	62,000	.037067	.004700	.....	.....	
16,000	64,000	.042333	.005266	.....	.....	
16,500	66,000	.048167	.005834	.....	.....	
17,000	68,000	.058333	.010166	.....	.....	
17,500	70,000	.0667	.008367	.....	.....	
18,000	72,000	.0767	.0100	.....	.....	
18,500	74,000	.1000	.0233	.....	.....	
18,950	75,800	.1667	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	75,800
Elastic limit per square inch of original section	do	37,000
Elongation per inch after rupture	inch	0.2333
Elongation per inch under strain at elastic limit	do	.001167
Reduction in diameter at point of rupture	do	.125
Reduction in area after rupture, per centum of original section		28.2
Position of rupture		½ inch from middle of stem
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.20, ″.26, ″.14

No. 1685.

Marks, $\frac{S\ T_2}{B\ T_1\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	.000033	.000033	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001300	.000067	.....	.....	Elastic limit.
9,750	39,000	.001400	.000100	.....	.....	
10,000	40,000	.004533	.003133	.....	.....	
10,250	41,000	.004900	.000367	.....	.....	
10,500	42,000	.006233	.001333	.....	.....	
10,750	43,000	.006900	.000667	.....	.....	
11,000	44,000	.008000	.001100	.....	.....	
11,250	45,000	.009033	.001033	.007433	.007400	
11,500	46,000	.009767	.000734	.....	.....	
11,750	47,000	.010433	.000666	.....	.....	
12,000	48,000	.011733	.001300	.....	.....	
12,250	49,000	.012767	.001034	.....	.....	
12,500	50,000	.013900	.001133	.....	.....	
12,750	51,000	.015100	.001200	.....	.....	
13,000	52,000	.016500	.001400	.....	.....	
13,250	53,000	.017667	.001167	.....	.....	
13,500	54,000	.019200	.001533	.....	.....	
13,750	55,000	.020333	.001133	.....	.....	
14,000	56,000	.022000	.001667	.....	.....	
14,250	57,000	.023333	.001333	.....	.....	
14,500	58,000	.025167	.001834	.....	.....	
14,750	59,000	.026667	.001500	.....	.....	
15,000	60,000	.028667	.002000	.....	.....	
15,500	62,000	.032233	.003566	.....	.....	
16,000	64,000	.036667	.004434	.....	.....	
16,500	66,000	.042067	.005400	.....	.....	
17,000	68,000	.048833	.006766	.....	.....	
17,500	70,000	.056333	.007500	.....	.....	
18,000	72,000	.066000	.009667	.....	.....	
18,500	74,000	.0833	.0173	.....	.....	
19,000	76,000	.1100	.0267	.....	.....	
19,180	76,720	.1633	.0533	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,720
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		§ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		".39", ".24, ".15

No. 1686.

Marks, $\frac{8\ T_{32}}{M\ T_4\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000633	.000233	0.	.....	
6,250	25,000	.000733	.000100	0.	.....	
7,500	30,000	.000867	.000134	0.	.....	
8,750	35,000	.001033	.000166	0.	.....	
9,000	36,000	.001067	.000034	.....	.....	
9,250	37,000	.001100	.000033	.....	.....	
9,500	38,000	.001133	.000033	.....	.....	
9,750	39,000	.001167	.000033	.....	.....	
10,000	40,000	.001167	0.	0.	.....	
10,250	41,000	.001200	.000033	.....	.....	
10,500	42,000	.001233	.000033	.....	.....	
10,750	43,000	.001267	.000034	.....	.....	
11,000	44,000	.001333	.000066	.....	.....	
11,250	45,000	.001367	.000034	0.	.....	
11,500	46,000	.001433	.000066	.....	.....	
11,750	47,000	.001533	.000100	.....	.....	Elastic limit.
12,000	48,000	.002767	.001234	.....	.....	
12,250	49,000	.004233	.001466	.....	.....	
12,500	50,000	.006700	.002467	.004900	.004900	
12,750	51,000	.007133	.000433	.....	.....	
13,000	52,000	.008000	.000867	.....	.....	
13,250	53,000	.009267	.001267	.....	.....	
13,500	54,000	.010567	.001300	.....	.....	
13,750	55,000	.011700	.001133	.....	.....	
14,000	56,000	.012833	.001133	.....	.....	
14,250	57,000	.013833	.001000	.....	.....	
14,500	58,000	.015367	.001534	.....	.....	
14,750	59,000	.016367	.001000	.....	.....	
15,000	60,000	.017900	.001533	.....	.....	
15,500	62,000	.020800	.002900	.....	.....	
16,000	64,000	.024000	.003200	.....	.....	
16,500	66,000	.027333	.003333	.....	.....	
17,000	68,000	.031333	.004000	.....	.....	
17,500	70,000	.035367	.004034	.....	.....	
18,000	72,000	.040400	.005033	.....	.....	
18,500	74,000	.046833	.006433	.....	.....	
19,000	76,000	.055000	.008167	.....	.....	
19,500	78,000	.066333	.011333	.....	.....	
20,000	80,000	.0900	.023667	.....	.....	
20,290	81,160	.1300	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,160
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1433
Elongation per inch under strain at elastic limit	do...	.001533
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture	½ inch from middle of stem	
Character of broken surface	granular, with belt of dull-colored metal	
Elongation of inch sections	″.19*, ″.15, ″.09	

No. 1687.

Marks, $\frac{8\ T_{32}}{M\ T_5\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000267	.000100	0.	.....	
3,750	15,000	.000467	.000200	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	.000033	.000033	
10,000	40,000	.001267	.000134	.000033	0.	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001433	.000066	.....	.....	
11,000	44,000	.001500	.000067	.....	.....	
11,250	45,000	.001533	.000033	.000133	.000100	Elastic limit.
11,500	46,000	.001733	.000200	.....	.....	
11,750	47,000	.002800	.001067	.....	.....	
12,000	48,000	.004833	.002033	.....	.....	
12,250	49,000	.005500	.000667	.....	.....	
12,500	50,000	.006933	.001433	.005133	.005000	
12,750	51,000	.007667	.000734	.....	.....	
13,000	52,000	.008533	.000866	.....	.....	
13,250	53,000	.009700	.001167	.....	.....	
13,500	54,000	.010667	.000967	.....	.....	
13,750	55,000	.012000	.001333	.....	.....	
14,000	56,000	.013233	.001233	.....	.....	
14,250	57,000	.014333	.001100	.....	.....	
14,500	58,000	.015433	.001100	.....	.....	
14,750	59,000	.016600	.001167	.....	.....	
15,000	60,000	.018000	.001400	.....	.....	
15,500	62,000	.020667	.002667	.....	.....	
16,000	64,000	.023567	.002900	.....	.....	
16,500	66,000	.026667	.003100	.....	.....	
17,000	68,000	.030333	.003666	.....	.....	
17,500	70,000	.034833	.004500	.....	.....	
18,000	72,000	.039000	.004167	.....	.....	
18,500	74,000	.044667	.005667	.....	.....	
19,000	76,000	.052333	.007666	.....	.....	
19,500	78,000	.061667	.009334	.....	.....	
20,000	80,000	.0767	.015033	.....	.....	
20,500	82,000	.1167	.0400	.....	.....	
20,520	82,080	.1467	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,080
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.2133
Elongation per inch under strain at elastic limit	do...	.001533
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		⅜ inch from middle of stem
Character of broken surface		granular; dull center
Elongation of inch sections		″.16, ″.36*, ″.12

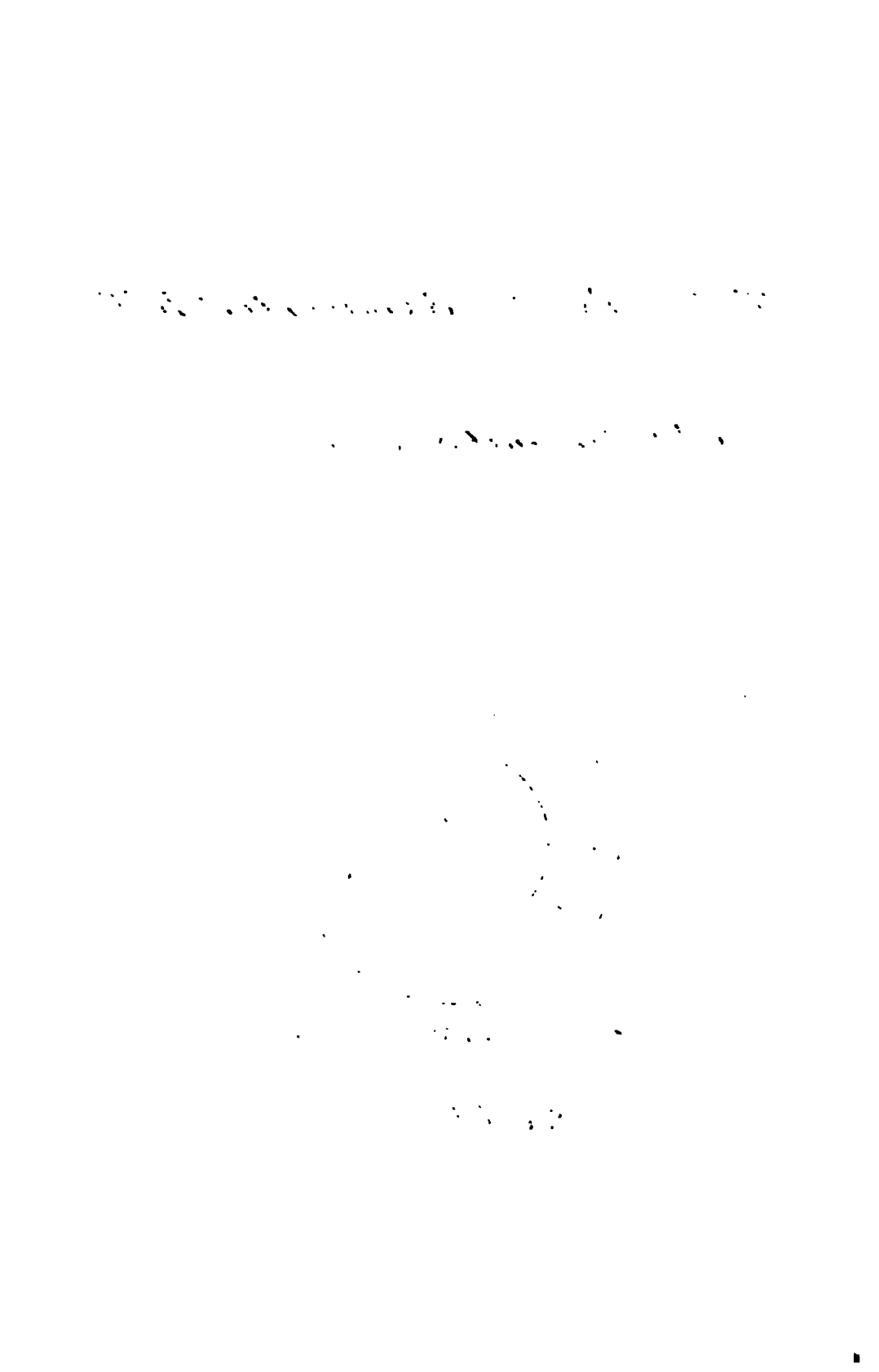
No. 1688.

Marks, $\frac{8\,T_{32}}{M\,T_6\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001267	.000134	0.	.....	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001400	.000100	.....	.....	Elastic limit.
10,750	43,000	.001633	.000233	.....	.....	
11,000	44,000	.002167	.000534	.....	.....	
11,250	45,000	.003733	.001566	.002100	.002100	
11,500	46,000	.005000	.001267	.....	.....	
11,750	47,000	.005933	.000933	.....	.....	
12,000	48,000	.007067	.001134	.....	.....	
12,250	49,000	.008067	.001000	.....	.....	
12,500	50,000	.009033	.000966	.007100	.005000	
12,750	51,000	.009667	.000634	.....	.....	
13,000	52,000	.010667	.001000	.....	.....	
13,250	53,000	.011500	.000833	.....	.....	
13,500	54,000	.012867	.001367	.....	.....	
13,750	55,000	.013867	.001000	.....	.....	
14,000	56,000	.015067	.001200	.....	.....	
14,250	57,000	.016333	.001266	.....	.....	
14,500	58,000	.017667	.001334	.....	.....	
14,750	59,000	.018833	.001166	.....	.....	
15,000	60,000	.020567	.001734	.....	.....	
15,500	62,000	.023333	.002766	.....	.....	
16,000	64,000	.026467	.003134	.....	.....	
16,500	66,000	.030000	.003533	.....	.....	
17,000	68,000	.034000	.004000	.....	.....	
17,500	70,000	.038667	.004667	.....	.....	
18,000	72,000	.044000	.005333	.....	.....	
18,500	74,000	.051667	.007667	.....	.....	
19,000	76,000	.060000	.008333	.....	.....	
19,500	78,000	.0733	.0133	.....	.....	
20,000	80,000	.1000	.0267	.....	.....	
20,190	80,760	.1333	.0333	.....	.....	Tensile strength.

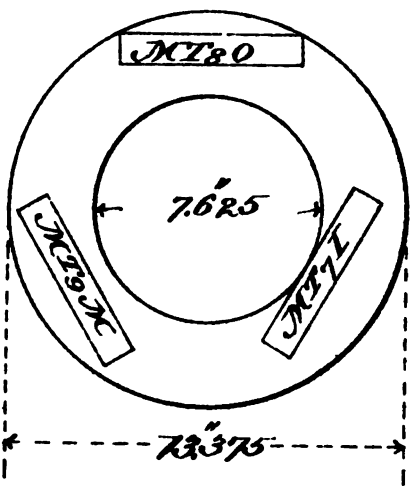
General summary.

Tensile strength per square inch of original section	pounds	80,760
Elastic limit per square inch of original section	do	42,000
Elongation per inch after rupture	inch	.0167
Elongation per inch under strain at elastic limit	do	.001400
Reduction in diameter at point of rupture	do	.084
Reduction in area after rupture, per centum of original section		27.6
Position of rupture		″.70 from neck
Character of broken surface		granular; dull-colored spot at circumference
Elongation of inch sections		″.28*, ″.13, ″.09



Tube No. 32 8" converted Rifle

Additional specimens



H Ex 31 49 2

No. 2347.

Marks, $\frac{8\ T_{32}}{M\ T_7\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
7,750	31,000	.001000	.000033	.....	.....	
8,000	32,000	.001033	.000033	.....	.....	
8,250	33,000	.001100	.000067	.....	.....	
8,500	34,000	.001167	.000067	.....	.....	Elastic limit.
8,570	35,000	.007467	.006300	.....	.....	
9,000	36,000	.009333	.001866	.....	.....	
9,250	37,000	.010067	.000734	.....	.....	
9,500	38,000	.011367	.001300	.....	.....	
9,750	39,000	.012400	.001033	.....	.....	
10,000	40,000	.013400	.001000	.....	.....	
10,500	42,000	.015433	.002033	.....	.....	
11,000	44,000	.017733	.002300	.....	.....	
11,500	46,000	.020167	.002434	.....	.....	
12,000	48,000	.022833	.002666	.....	.....	
12,500	50,000	.026200	.003367	.....	.....	
13,000	52,000	.029333	.003133	.....	.....	
13,500	54,000	.033000	.003667	.....	.....	
14,000	56,000	.036900	.003900	.....	.....	
14,500	58,000	.041333	.004433	.....	.....	
15,000	60,000	.046667	.005334	.....	.....	
15,500	62,000	.053000	.006333	.....	.....	
16,000	64,000	.060000	.007000	.....	.....	
16,500	66,000	.0700	.0100	.....	.....	
17,000	68,000	.0800	.0100	.....	.....	
17,500	70,000	.0967	.0167	.....	.....	
18,000	72,000	.1267	.0300	.....	.....	
18,160	72,640	.1633	.0366	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,640
Elastic limit per square inch of original section	do...	34,000
Elongation per inch after rupture	inch..	0.1833
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.084
Reduction in area after rupture, per centum of original section		27.6
Position of rupture		⅝ inch from neck
Character of broken surface		granular; flaky spot near circumference
Elongation of inch sections		″.14, ″.15, ″.26*

No. 2348.

Marks, $\overset{8\ T_{28}}{M\ T_8\ O}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100			
2,500	10,000	.000267	.000167			
3,750	15,000	.000400	.000133			
5,000	20,000	.000533	.000133			
6,250	25,000	.000667	.000134			
7,500	30,000	.000867	.000200			
8,750	35,000	.001033	.000166			
9,000	36,000	.001067	.000034			
9,250	37,000	.001100	.000033			
9,500	38,000	.001167 .007667	.000067 .006500			Elastic limit.
9,750	39,000	.010333	.002666			
10,000	40,000	.011333	.001000			
10,500	42,000	.012767	.001434			
11,000	44,000	.015333	.002566			
11,500	46,000	.017500	.002167			
12,000	48,000	.019833	.002333			
12,500	50,000	.022533	.002700			
13,000	52,000	.025167	.002634			
13,500	54,000	.028333	.003166			
14,000	56,000	.031933	.003600			
14,500	58,000	.035667	.003734			
15,000	60,000	.040400	.004733			
15,500	62,000	.045333	.004933			
16,000	64,000	.050767	.005434			
16,500	66,000	.057000	.006233			
17,000	68,000	.0667	.0097			
17,500	70,000	.0733	.0066			
18,000	72,000	.0900	.0167			
18,500	74,000	.1067	.0167			
18,960	75,840	.1733	.0666			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,840
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2267
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do ..	.105
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		1".1 from neck
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		".14, ".25, ".29"

No. 2349.

Marks, $\frac{8\ T_2}{M\ T_1 M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000267	.000134	0.		
3,750	15,000	.000433	.000166	0.		
5,000	20,000	.000600	.000167	0.		
6,250	25,000	.000767	.000167	0.		
7,500	30,000	.000933	.000166	0.		
8,750	35,000	.001167	.000234	.000033	.000033	Elastic limit.
9,000	36,000	.006800	.005633			
9,250	37,000	.009133	.002333			
9,500	38,000	.010333	.001200			
9,750	39,000	.011033	.000700			
10,000	40,000	.012200	.001167			
10,500	42,000	.014400	.002200			
11,000	44,000	.016467	.002067			
11,500	46,000	.018800	.002333			
12,000	48,000	.021267	.002467			
12,500	50,000	.024167	.002900			
13,000	52,000	.027367	.003200			
13,500	54,000	.030667	.003300			
14,000	56,000	.034333	.003666			
14,500	58,000	.038333	.004000			
15,000	60,000	.043000	.004667			
15,500	62,000	.048333	.005333			
16,000	64,000	.055000	.006667			
16,500	66,000	.062167	.007167			
17,000	68,000	.0733	.011133			
17,500	70,000	.0867	.0134			
18,000	72,000	.1033	.0166			
18,380	73,520	.1367	.0334			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds.	73,520
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.1367
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		″.23 from neck
Character of broken surface		granular
Elongation of inch sections		″.13, ″.15, ″.13*

NEW TUBE NO. 32.

No. 2668.

Marks, $\frac{8\ Cn\ Rs\ T}{B\ T,\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.		
2,500	10,000	.000300	.000200	0.		
3,750	15,000	.000367	.000067	0.		
5,000	20,000	.000600	.000233	0.		
6,250	25,000	.000700	.000100	−.000033	−.000033	
7,500	30,000	.000967	.000267	−.000033	0.	
8,750	35,000	.001167	.000200			Elastic limit.
9,000	36,000	.005600	.004433			
9,250	37,000	.006333	.000733			
9,500	38,000	.007267	.000934			
9,750	39,000	.008267	.001000			
10,000	40,000	.009333	.001066			
10,250	41,000	.010133	.000800			
10,500	42,000	.011467	.001334			
10,750	43,000	.012333	.000866			
11,000	44,000	.013667	.001334			
11,250	45,000	.015333	.001666			
11,500	46,000	.016667	.001334			
11,750	47,000	.017667	.001000			
12,000	48,000	.019333	.001666			
12,250	49,000	.020167	.000834			
12,500	50,000	.021823	.001666			
13,000	52,000	.025000	.003167			
13,500	54,000	.028333	.003333			
14,000	56,000	.032667	.004334			
14,500	58,000	.037000	.004333			
15,000	60,000	.0467	.0097			
15,500	62,000	.0533	.0066			
16,000	64,000	.0600	.0067			
16,500	66,000	.0700	.0100			
17,000	68,000	.0867	.0167			
17,500	70,000	.1100	.0233			
18,000	72,000	.1533	.0433			
18,110	72,440					Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,440
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.[illegible]
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		".30 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".18, ".43, ".27

No. 2669.

Marks, $\frac{S\,Cn\,R_2\,T}{B\,T_2\,O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100			
2,500	10,000	.000333	.000233			
3,750	15,000	.000467	.000134			
5,000	20,000	.000633	.000166			
6,250	25,000	.000800	.000167			
7,500	30,000	.000967	.000167	—.000033	—.000033	
8,750	35,000	.001167	.000200			
9,000	36,000	.001233	.000066			Elastic limit.
9,250	37,000	.003000	.001767			
9,500	38,000	.004267	.001267			
9,750	39,000	.005233	.000966			
10,000	40,000	.006167	.000934			
10,250	41,000	.007033	.000866			
10,500	42,000	.008000	.000967			
10,750	43,000	.008767	.000767			
11,000	44,000	.009933	.001166			
11,250	45,000	.010733	.000800			
11,500	46,000	.012033	.001300			
11,750	47,000	.013000	.000967			
12,000	48,000	.014267	.001267			
12,250	49,000	.015267	.001000			
12,500	50,000	.016600	.001333			
13,000	52,000	.019600	.003000			
13,500	54,000	.022033	.002433			
14,000	56,000	.025067	.003034			
14,500	58,000	.028567	.003500			
15,000	60,000	.033000	.004433			
15,500	62,000	.036667	.003667			
16,000	64,000	.041333	.004666			
16,500	66,000	.0467	.005367			
17,000	68,000	.0567	.0100			
17,500	70,000	.0633	.0066			
18,000	72,000	.0700	.0067			
18,500	74,000	.0900	.0200			
19,000	76,000	.1133	.0233			
19,240	76,960	.1567	.0434			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,960
Elastic limit per square inch of original section	do...	36,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".16, ".46*, ".15

No. 2670.

Marks, $\frac{S\,Cn\,R_m\,T}{B\,T,\,M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000967	.000200	—.000033	—.000033	
8,500	34,000	.001133	.000166	.....	.....	
8,750	35,000	.001200	.000067	.....	.....	Elastic limit.
9,000	36,000	.003000	.001800	.....	.....	
9,250	37,000	.004733	.001733	.....	.....	
9,500	38,000	.005700	.000967	.....	.....	
9,750	39,000	.006567	.000867	.....	.....	
10,000	40,000	.007433	.000866	.....	.....	
10,250	41,000	.008367	.000934	.....	.....	
10,500	42,000	.009333	.000966	.....	.....	
10,750	43,000	.010400	.001067	.....	.....	
11,000	44,000	.011500	.001100	.....	.....	
11,250	45,000	.012433	.000933	.....	.....	
11,500	46,000	.013733	.001300	.....	.....	
11,750	47,000	.014733	.001000	.....	.....	
12,000	48,000	.016233	.001500	.....	.....	
12,500	50,000	.018933	.002700	.....	.....	
13,000	52,000	.022033	.003100	.....	.....	
13,500	54,000	.025167	.003134	.....	.....	
14,000	56,000	.028833	.003666	.....	.....	
14,500	58,000	.032733	.003900	.....	.....	
15,000	60,000	.037667	.004934	.....	.....	
15,500	62,000	.042267	.004600	.....	.....	
16,000	64,000	.0467	.004433	.....	.....	
16,500	66,000	.0567	.0100	.....	.....	
17,000	68,000	.0667	.0100	.....	.....	
17,500	70,000	.0767	.0100	.....	.....	
18,000	72,000	.0933	.0166	.....	.....	
18,500	74,000	.1233	.0300	.....	.....	
18,700	74,800	.1667	.0434	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,800
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.253
Elongation per inch under strain at elastic limit	do...	.001200
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1".32 from neck
Character of broken surface		silky
Elongation of inch sections		".15, ".28*, ".3[illegible]

No. 2671.

Marks, $\frac{8\,Cn\,R_{22}\,T}{M\,T_{10}\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000600	.000133	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001267	.000067	.....	.....	
10,000	40,000	.001333	.000066	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	Elastic limit.
10,500	42,000	.002233	.000866	.....	.....	
10,750	43,000	.003433	.001200	.....	.....	
11,000	44,000	.004867	.001434	.....	.....	
11,250	45,000	.006133	.001266	.....	.....	
11,500	46,000	.007233	.001100	.....	.....	
11,750	47,000	.008000	.000767	.....	.....	
12,000	48,000	.009333	.001333	.....	.....	
12,250	49,000	.010100	.000767	.....	.....	
12,500	50,000	.011200	.001100	.....	.....	
13,000	52,000	.013567	.002367	.....	.....	
13,500	54,000	.015833	.002266	.....	.....	
14,000	56,000	.018267	.002434	.....	.....	
14,500	58,000	.021267	.003000	.....	.....	
15,000	60,000	.024167	.002900	.....	.....	
15,500	62,000	.027333	.003166	.....	.....	
16,000	64,000	.030833	.003500	.....	.....	
16,500	66,000	.034833	.004000	.....	.....	
17,000	68,000	.039333	.004500	.....	.....	
17,500	70,000	.0433	.003967	.....	.....	
18,000	72,000	.0533	.0100	.....	.....	
18,500	74,000	.0633	.0100	.....	.....	
19,000	76,000	.0700	.0067	.....	.....	
19,500	78,000	.0900	.0200	.....	.....	
19,980	79,920	.1400	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,920
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2033
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		⅞ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.12, ″.13, ″.36*

No. 2672.

Marks, $\frac{8\ Cn\ R_{22}\ T}{M\ T_{11}\ O}$
Diameter, $''$.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000233	.000100	0.		
3,750	15,000	.000367	.000134	0.		
5,000	20,000	.000567	.000200	0.		
6,250	25,000	.000700	.000133	0.		
7,500	30,000	.000900	.000200	0.		
8,750	35,000	.001100	.000200	0.		
10,000	40,000	.001300	.000200			
10,250	41,000	.001333	.000033			
10,500	42,000	.001433	.000100			Elastic limit.
10,750	43,000	.002900	.001467			
11,000	44,000	.004500	.001600			
11,250	45,000	.005433	.000933			
11,500	46,000	.006500	.001067			
11,750	47,000	.007500	.001000			
12,000	48,000	.008667	.001167			
12,250	49,000	.009733	.001066			
12,500	50,000	.010733	.001000			
13,000	52,000	.012667	.001934			
13,500	54,000	.014967	.002300			
14,000	56,000	.017233	.002266			
14,500	58,000	.019800	.002567			
15,000	60,000	.022500	.002700			
15,500	62,000	.025500	.003000			
16,000	64,000	.028933	.003433			
16,500	66,000	.032333	.003400			
17,000	68,000	.036667	.004334			
17,500	70,000	.042167	.005500			
18,000	72,000	.0467	.004533			
18,500	74,000	.0567	.0100			
19,000	76,000	.0667	.0100			
19,500	78,000	.0733	.0066			
20,000	80,000	.0900	.0167			
20,500	82,000	.1333	.0433			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	82,000
Elastic limit per square inch of original section	do	42,000
Elongation per inch after rupture	inch	0.2300
Elongation per inch under strain at elastic limit	do	.001433
Reduction in diameter at point of rupture	do	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1".10 from neck
Character of broken surface		silky
Elongation of inch sections		".11, ".23, ".32

No. 2673.

Marks, $\frac{8\ Cn\ R_{22}\ T}{M\ T_{12}\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000867	.000200	0.	.....	
7,500	30,000	.001033	.000166	0.	.....	
8,750	35,000	.001233	.000200	.000067	.000067	
9,000	36,000	.001300	.000067	.....	.....	
9,250	37,000	.001333	.000033	.....	.....	
9,500	38,000	.001367	.000034	.....	.....	Elastic limit.
9,750	39,000	.001500	.000133	.....	.....	
10,000	40,000	.003500	.002000	.....	.....	
10,250	41,000	.005333	.001833	.....	.....	
10,500	42,000	.007000	.001667	.....	.....	
10,750	43,000	.008000	.001000	.....	.....	
11,000	44,000	.009000	.001000	.....	.....	
11,250	45,000	.009833	.000833	.....	.....	
11,500	46,000	.010700	.000867	.....	.....	
11,750	47,000	.011400	.000700	.....	.....	
12,000	48,000	.012833	.001433	.....	.....	
12,250	49,000	.014033	.001200	.....	.....	
12,500	50,000	.015500	.001467	.....	.....	
13,000	52,000	.018333	.002833	.....	.....	
13,500	54,000	.020700	.002367	.....	.....	
14,000	56,000	.023833	.003133	.....	.....	
14,500	58,000	.027333	.003500	.....	.....	
15,000	60,000	.030667	.003334	.....	.....	
15,500	62,000	.035000	.004333	.....	.....	
16,000	64,000	.039667	.004667	.....	.....	
16,500	66,000	.0467	.007033	.....	.....	
17,000	68,000	.0533	.0066	.....	.....	
17,500	70,000	.0633	.0100	.....	.....	
18,000	72,000	.0700	.0067	.....	.....	
18,500	74,000	.0933	.0233	.....	.....	
19,000	76,000	.1200	.0267	.....	.....	
19,150	76,600	.1667	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,600
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2233
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″.60 from neck
Character of broken surface		silky
Elongation of inch sections		″.13, ″.40*, ″.14

No. 1001.

Marks, $\frac{8\ T_{25}}{B\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	.000033	.000033	
8,750	35,000	.001167	.000234	.000067	.000034	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	Elastic limit.
9,500	38,000	.001333	.000100	.....	.....	
9,750	39,000	.002333	.001000	.....	.....	
10,000	40,000	.004833	.002500	.003567	.003500	
10,250	41,000	.005500	.000667	.....	.....	
10,500	42,000	.006700	.001200	.....	.....	
10,750	43,000	.007900	.001200	.....	.....	
11,000	44,000	.008933	.001033	.....	.....	
11,250	45,000	.009967	.001034	.008300	.004733	
11,500	46,000	.011400	.001433	.....	.....	
11,750	47,000	.012167	.000767	.....	.....	
12,000	48,000	.013500	.001333	.....	.....	
12,250	49,000	.014767	.001267	.....	.....	
12,500	50,000	.016533	.001766	.014600	.006300	
13,000	52,000	.019333	.002800	.....	.....	
13,500	54,000	.022267	.002934	.....	.....	
14,000	56,000	.026100	.003833	.....	.....	
14,500	58,000	.030400	.004300	.....	.....	
15,000	60,000	.034600	.004200	.....	.....	
15,500	62,000	.040000	.005400	.....	.....	
16,000	64,000	.046933	.006933	.....	.....	
16,500	66,000	.054700	.007767	.....	.....	
17,000	68,000	.065833	.011133	.....	.....	
17,500	70,000	.082500	.016667	.....	.....	
18,000	72,000	.1100	.0275	.....	.....	
18,260	73,040	.1733	.0633	.....	.....	Tensile strength.
15,700	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Specific gravity	7.8552
Hardness	11.49
Tensile strength per square inch of original section ..... pounds	73,040
Elastic limit per square inch of original section ..... do	37,000
Elongation per inch after rupture ..... inch	0.2767
Elongation per inch under strain at elastic limit ..... do	.001233
Reduction in diameter at point of rupture ..... do	.164
Reduction in area after rupture, per centum of original section	49.7
Position of rupture	½ inch from middle of stem
Character of broken surface	silky

No. 1002.

Marks, $\frac{8T_{36}}{BT_2O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	0.	.....	
2,500	10,000	.000233	.000166	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001200	.000033	.....	.....	
10,000	40,000	.001233	.000033	0.	.....	
10,250	41,000	.001267	.000034	.....	.....	Elastic limit.
10,500	42,000	.004000	.002733	.....	.....	
10,750	43,000	.004833	.000833	.....	.....	
11,000	44,000	.006033	.001200	.....	.....	
11,250	45,000	.006667	.000634	.005033	.005033	
11,500	46,000	.008000	.001333	.....	.....	
11,750	47,000	.009100	.001100	.....	.....	
12,000	48,000	.010233	.001133	.....	.....	
12,250	49,000	.011367	.001134	.....	.....	
12,500	50,000	.012600	.001233	.010733	.005700	
13,000	52,000	.015133	.002533	.....	.....	
13,500	54,000	.018333	.003200	.....	.....	
14,000	56,000	.021267	.002934	.....	.....	
14,500	58,000	.024067	.002800	.....	.....	
15,000	60,000	.028000	.003933	.....	.....	
15,500	62,000	.032000	.004000	.....	.....	
16,000	64,000	.036367	.004367	.....	.....	
16,500	66,000	.042667	.006300	.....	.....	
17,000	68,000	.049167	.006500	.....	.....	
17,500	70,000	.058000	.008833	.....	.....	
18,000	72,000	.071000	.013000	.....	.....	
18,500	74,000	.0933	.0223	.....	.....	
18,950	75,800	.1600	.0667	.....	.....	Tensile strength.
15,800	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Tensile strength per square inch of original section	pounds..	75,800
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2533
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		⅜ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.19, ″.44*, ″.13

No. 1003.

Marks, $\frac{8\ T_{35}}{B\ T_3\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	.000033	.000033	
6,250	25,000	.000833	.000166	.000033	0.	
7,500	30,000	.001000	.000167	.000067	.000034	
8,750	35,000	.001133	.000133	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001233	.000066	.....	.....	
9,500	38,000	.001300	.000067	.....	.....	Elastic limit.
9,750	39,000	.001533	.000233	.....	.....	
10,000	40,000	.004233	.002700	.002900	.002833	
10,250	41,000	.005400	.001167	.....	.....	
10,500	42,000	.006233	.000833	.....	.....	
10,750	43,000	.007767	.001534	.....	.....	
11,000	44,000	.008267	.000500	.....	.....	
11,250	45,000	.009200	.000933	.007600	.004700	
11,500	46,000	.010567	.001367	.....	.....	
11,750	47,000	.011767	.001200	.....	.....	
12,000	48,000	.012767	.001000	.....	.....	
12,250	49,000	.014133	.001366	.....	.....	
12,500	50,000	.015633	.001500	.013767	.006167	
13,000	52,000	.017400	.001767	.....	.....	
13,500	54,000	.020833	.003433	.....	.....	
14,000	56,000	.023767	.002934	.....	.....	
14,500	58,000	.026833	.003066	.....	.....	
15,000	60,000	.030833	.004000	.....	.....	
15,500	62,000	.035500	.004667	.....	.....	
16,000	64,000	.040833	.005333	.....	.....	
16,500	66,000	.047067	.006234	.....	.....	
17,000	68,000	.054500	.007433	.....	.....	
17,500	70,000	.065500	.011000	.....	.....	
18,000	72,000	.081333	.015833	.....	.....	
18,500	74,000	.1067	.025367	.....	.....	
18,800	75,200	.....	.....	.....	.....	Tensile strength.
15,900	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Tensile strength per square inch of original section	pounds..	75,200
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		⅜ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.20, ″.42, ″.16

No. 1004.

Marks, $\frac{8\ T_{25}}{M\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	.000033	.000033	
3,750	15,000	.000467	.000134	.000067	.000034	
5,000	20,000	.000633	.000166	.000067	0.	
6,250	25,000	.000800	.000167	.000067	0.	
7,500	30,000	.000967	.000167	.000067	0.	
8,750	35,000	.001133	.000166	.000100	.000033	
10,000	40,000	.001267	.000134	.000100	0.	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	
11,000	44,000	.001433	.000033	.....	.....	
11,250	45,000	.001467	.000034	.000100	0.	
11,500	46,000	.001533	.000066	.....	.....	Elastic limit.
11,750	47,000	.001733	.000200	.....	.....	
12,000	48,000	.002667	.000934	.....	.....	
12,250	49,000	.006000	.003333	.....	.....	
12,500	50,000	.008267	.002267	.006400	.006300	
12,750	51,000	.008900	.000633	.....	.....	
13,000	52,000	.009767	.000867	.....	.....	
13,250	53,000	.010800	.001033	.....	.....	
13,500	54,000	.012333	.001533	.....	.....	
13,750	55,000	.014000	.001667	.....	.....	
14,000	56,000	.015333	.001333	.....	.....	
14,250	57,000	.017000	.001667	.....	.....	
14,500	58,000	.018333	.001333	.....	.....	
14,750	59,000	.019833	.001500	.....	.....	
15,000	60,000	.021667	.001834	.....	.....	
15,500	62,000	.024933	.003266	.....	.....	
16,000	64,000	.028467	.003534	.....	.....	
16,500	66,000	.033000	.004533	.....	.....	
17,000	68,000	.038333	.005333	.....	.....	
17,500	70,000	.044000	.005667	.....	.....	
18,000	72,000	.051500	.007500	.....	.....	
18,500	74,000	.061667	.010167	.....	.....	
19,000	76,000	.0800	.018333	.....	.....	
19,500	78,000	.1467	.0667	.....	.....	Tensile strength.
17,500	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Specific gravity	7.8517
Hardness	13.65
Tensile strength per square inch of original section ..... pounds..	78,000
Elastic limit per square inch of original section ..... do...	46,000
Elongation per inch after rupture ..... inch..	0.2133
Elongation per inch under strain at elastic limit ..... do...	.001533
Reduction in diameter at point of rupture ..... do...	.134
Reduction in area after rupture, per centum of original section	41.9
Position of rupture ..... ½ inch from middle of stem	
Character of broken surface ..... silky, 50 per centum; granular, 50 per centum	
Elongation of inch sections ..... ″.16, ″.35*, ″.13	

No. 1005.

Marks, $\frac{8\ T_{35}}{M\ T_2\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	0.	.....	
2,500	10,000	.000200	.000133	0.	.....	
3,750	15,000	.000367	.000167	0.	.....	
5,000	20,000	.000533	.000166	0.	.....	
6,250	25,000	.000700	.000167	0.	.....	
7,500	30,000	.000867	.000167	0.	.....	
8,750	35,000	.001033	.000166	0.	.....	
10,000	40,000	.001200	.000167	0.	.....	
10,250	41,000	.001233	.000033	.....	.....	
10,500	42,000	.001300	.000067	.....	.....	
10,750	43,000	.001367	.000067	.....	.....	
11,000	44,000	.001433	.000066	.....	.....	Elastic limit.
11,250	45,000	.003333	.001900	.001700	.001700	
11,500	46,000	.004500	.001167	.....	.....	
11,750	47,000	.005800	.001300	.....	.....	
12,000	48,000	.006667	.000867	.....	.....	
12,250	49,000	.007733	.001066	.....	.....	
12,500	50,000	.009133	.001400	.007300	.005600	
12,750	51,000	.009767	.000634	.....	.....	
13,000	52,000	.010800	.001033	.....	.....	
13,250	53,000	.012067	.001267	.....	.....	
13,500	54,000	.013433	.001366	.....	.....	
13,750	55,000	.014333	.000900	.....	.....	
14,000	56,000	.015933	.001600	.....	.....	
14,250	57,000	.017267	.001334	.....	.....	
14,500	58,000	.018667	.001400	.....	.....	
14,750	59,000	.020067	.001400	.....	.....	
15,000	60,000	.021833	.001766	.....	.....	
15,500	62,000	.025033	.003200	.....	.....	
16,000	64,000	.029000	.003967	.....	.....	
16,500	66,000	.033167	.004167	.....	.....	
17,000	68,000	.037600	.004433	.....	.....	
17,500	70,000	.043333	.005733	.....	.....	
18,000	72,000	.051000	.007667	.....	.....	
18,500	74,000	.060667	.009667	.....	.....	
19,000	76,000	.074667	.014000	.....	.....	
19,500	78,000	.1000	.025333	.....	.....	
19,800	79,200	.1367	.0367	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,200
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.2833
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		42.7
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		″.17, ″.44*, ″.18

No. 1006.

Marks, $\frac{S\ Ts}{M\ T,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	.000033	.000033	
7,500	30,000	.000933	.000166	.000033	0.	
8,750	35,000	.001100	.000167	.000033	0.	
10,000	40,000	.001267	.000167	.000067	.000034	Elastic limit.
10,250	41,000	.001400	.000133	.....	.....	
10,500	42,000	.002633	.001233	.....	.....	
10,750	43,000	.004667	.002034	.....	.....	
11,000	44,000	.005933	.001266	.....	.....	
11,250	45,000	.006767	.000834	.005267	.005200	
11,500	46,000	.008433	.001666	.....	.....	
11,750	47,000	.009000	.000567	.....	.....	
12,000	48,000	.010233	.001233	.....	.....	
12,250	49,000	.011067	.000834	.....	.....	
12,500	50,000	.012700	.001633	.010933	.005666	
12,750	51,000	.013400	.000700	.....	.....	
13,000	52,000	.014233	.000833	.....	.....	
13,250	53,000	.015667	.001434	.....	.....	
13,500	54,000	.017500	.001833	.....	.....	
13,750	55,000	.018933	.001433	.....	.....	
14,000	56,000	.020033	.001100	.....	.....	
14,250	57,000	.021567	.001534	.....	.....	
14,500	58,000	.023267	.001700	.....	.....	
14,750	59,000	.024667	.001400	.....	.....	
15,000	60,000	.026667	.002000	.....	.....	
15,500	62,000	.030333	.003666	.....	.....	
16,000	64,000	.034500	.004167	.....	.....	
16,500	66,000	.039933	.005433	.....	.....	
17,000	68,000	.046500	.006567	.....	.....	
17,500	70,000	.053833	.007333	.....	.....	
18,000	72,000	.063333	.009500	.....	.....	
18,500	74,000	.0767	.013367	.....	.....	
19,000	76,000	.1033	.0266	.....	.....	
19,370	77,480	.1767	.0734	.....	.....	Tensile strength.
16,900	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Tensile strength per square inch of original section	pounds	77,480
Elastic limit per square inch of original section	do	40,000
Elongation per inch after rupture	inch	0.2633
Elongation per inch under strain at elastic limit	do	.001267
Reduction in diameter at point of rupture	do	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.40 ″.21 ″.18

No. 1007.

Marks, $\frac{8\ T_{\frac{8}{8}}}{B\ T_1\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000800	.000200	0.	.....	
7,500	30,000	.000967	.000167	.000033	.000033	
8,750	35,000	.001100	.000133	.000033	0.	
9,250	37,000	.001233	.000133	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	Elastic limit.
9,750	39,000	.003567	.002300	.....	.....	
10,000	40,000	.004800	.001233	.003433	.000700	
10,250	41,000	.005467	.000667	.....	.....	
10,500	42,000	.006967	.001500	.....	.....	
10,750	43,000	.007667	.000700	.....	.....	
11,000	44,000	.009567	.001900	.....	.....	
11,250	45,000	.010767	.001200	.009133	.000700	
11,500	46,000	.011633	.000866	.....	.....	
11,750	47,000	.012700	.001067	.....	.....	
12,000	48,000	.014500	.001800	.....	.....	
12,250	49,000	.015933	.001433	.....	.....	
12,500	50,000	.017467	.001534	.015567	.000434	
12,750	51,000	.018400	.000933	.....	.....	
13,000	52,000	.020000	.001600	.....	.....	
13,250	53,000	.021533	.001533	.....	.....	
13,500	54,000	.023600	.002067	.....	.....	
13,750	55,000	.025500	.001900	.....	.....	
14,000	56,000	.027500	.002000	.....	.....	
14,250	57,000	.029567	.002067	.....	.....	
14,500	58,000	.032000	.002433	.....	.....	
14,750	59,000	.034333	.002333	.....	.....	
15,000	60,000	.037200	.002867	.....	.....	
15,500	62,000	.043333	.006133	.....	.....	
16,000	64,000	.050000	.006667	.....	.....	
16,500	66,000	.058833	.008833	.....	.....	
17,000	68,000	.071000	.012167	.....	.....	
17,500	70,000	.0900	.0190	.....	.....	
18,000	72,000	.1333	.0433	.....	.....	
18,050	72,200	.1667	.0334	.....	.....	Tensile strength.
14,700	.....	.....	.....	.....	.....	Load at time of rupture.

General summary.

Specific gravity	7.85...
Hardness	11.9...
Tensile strength per square inch of original section ..... pounds..	72,200
Elastic limit per square inch of original section ..... do...	38,000
Elongation per inch after rupture ..... inch..	0.2700
Elongation per inch under strain at elastic limit ..... do...	.001267
Reduction in diameter at point of rupture ..... do..	.184
Reduction in area after rupture, per centum of original section	54.6
Position of rupture	½ inch from middle of stem
Character of broken surface	silky
Elongation of inch sections	".37", ".32", .12

No. 1008.

Marks, $\frac{S\ T_2}{B\ T_1\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	0.	.....	
2,500	10,000	.000233	.000166	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001067	0.	.....	.....	
9,250	37,000	.001100	.000033	.....	.....	
9,500	38,000	.001133	.000033	.....	.....	
9,750	39,000	.001167	.000034	.....	.....	
10,000	40,000	.001233	.000066	0.	.....	
10,250	41,000	.001267	.000034	.....	.....	
10,500	42,000	.001300	.000033	.....	.....	Elastic limit.
10,750	43,000	.001400	.000100	.....	.....	
11,000	44,000	.005467	.004067	.....	.....	
11,250	45,000	.006433	.000966	.004867	.004867	
11,500	46,000	.007400	.000967	.....	.....	
11,750	47,000	.008200	.000800	.....	.....	
12,000	48,000	.009433	.001233	.....	.....	
12,250	49,000	.010500	.001067	.....	.....	
12,500	50,000	.011800	.001300	.010033	.005166	
12,750	51,000	.012600	.000800	.....	.....	
13,000	52,000	.013333	.000733	.....	.....	
13,250	53,000	.014733	.001400	.....	.....	
13,500	54,000	.016333	.001600	.....	.....	
13,750	55,000	.018000	.001667	.....	.....	
14,000	56,000	.019333	.001333	.....	.....	
14,250	57,000	.021233	.002000	.....	.....	
14,500	58,000	.022333	.001000	.....	.....	
14,750	59,000	.023333	.001000	.....	.....	
15,000	60,000	.025333	.002000	.....	.....	
15,500	62,000	.029000	.003667	.....	.....	
16,000	64,000	.032667	.003667	.....	.....	
16,500	66,000	.037500	.004833	.....	.....	
17,000	68,000	.042667	.005167	.....	.....	
17,500	70,000	.049000	.006333	.....	.....	
18,000	72,000	.057000	.008000	.....	.....	
18,500	74,000	.069000	.012000	.....	.....	
19,000	76,000	.0867	.0177	.....	.....	
19,500	78,000	.1300	.0433	.....	.....	
19,570	78,280	1600	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,28
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2700
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		½ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		".32*, ".30, ".19

No. 1009.

Marks, $\frac{8\ T_{36}}{B\ T_3\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	0.	.....	
2,500	10,000	.000233	.000166	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001070	.000167	0.	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001200	.000033	.....	.....	Elastic limit.
10,000	40,000	.001333	.001133	.000100	.000100	
10,250	41,000	.002667	.001334	.....	.....	
10,500	42,000	.004267	.001600	.....	.....	
10,750	43,000	.005500	.001233	.....	.....	
11,000	44,000	.006600	.001100	.....	.....	
11,250	45,000	.007600	.001000	.005933	.005833	
11,500	46,000	.008833	.001233	.....	.....	
11,750	47,000	.009833	.001000	.....	.....	
12,000	48,000	.011100	.001267	.....	.....	
12,250	49,000	.012467	.001367	.....	.....	
12,500	50,000	.013600	.001133	.011733	.005800	
12,750	51,000	.014500	.000900	.....	.....	
13,000	52,000	.015833	.001333	.....	.....	
13,250	53,000	.017033	.001200	.....	.....	
13,500	54,000	.018867	.001834	.....	.....	
13,750	55,000	.020400	.001533	.....	.....	
14,000	56,000	.022333	.001933	.....	.....	
14,250	57,000	.023733	.001400	.....	.....	
14,500	58,000	.025400	.001667	.....	.....	
14,750	59,000	.027067	.001667	.....	.....	
15,000	60,000	.029267	.002200	.....	.....	
15,500	62,000	.034133	.004866	.....	.....	
16,000	64,000	.038667	.004534	.....	.....	
16,500	66,000	.044667	.006000	.....	.....	
17,000	68,000	.051833	.007166	.....	.....	
17,500	70,000	.061667	.009834	.....	.....	
18,000	72,000	.074000	.012333	.....	.....	
18,500	74,000	.1033	.0293	.....	.....	
18,860	75,440	.1533	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section ..... pounds.. [illegible]
Elastic limit per square inch of original section ..... do .. [illegible]
Elongation per inch after rupture ..... inch.. [illegible]
Elongation per inch under strain at elastic limit ..... do... [illegible]
Reduction in diameter at point of rupture ..... do. . [illegible]
Reduction in area after rupture, per centum of original section ..... [illegible]
Position of rupture ..... ″.60 from middle of [illegible]
Character of broken surface ..... [illegible]
Elongation of inch sections ..... ″.31°, ″.[illegible]

No. 1010.

Marks, $\frac{8\ T_{36}}{M\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000633	.000200	.000033	.000033	
6,250	25,000	.000767	.000134	.....	.....	
7,500	30,000	.000933	.000166	.....	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,500	38,000	.001133	.000033	.....	.....	
9,750	39,000	.001200	.000067	.....	.....	
10,000	40,000	.001367	.000167	.000133	.000100	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001467	.000067	.....	.....	Elastic limit.
10,750	43,000	.001633	.000166	.....	.....	
11,000	44,000	.002167	.000534	.....	.....	
11,250	45,000	.005467	.003300	.003933	.003800	
11,500	46,000	.006067	.000600	.....	.....	
11,750	47,000	.007200	.000133	.....	.....	
12,000	48,000	.008700	.001500	.....	.....	
12,250	49,000	.009433	.000733	.....	.....	
12,500	50,000	.010933	.001500	.009167	.005234	
12,750	51,000	.011733	.000800	.....	.....	
13,000	52,000	.012433	.000700	.....	.....	
13,250	53,000	.013533	.001100	.....	.....	
13,500	54,000	.015133	.001600	.....	.....	
13,750	55,000	.016167	.001034	.....	.....	
14,000	56,000	.018000	.001833	.....	.....	
14,250	57,000	.019333	.001333	.....	.....	
14,500	58,000	.020733	.001400	.....	.....	
14,750	59,000	.021933	.001200	.....	.....	
15,000	60,000	.023600	.001667	.....	.....	
15,500	62,000	.027000	.003400	.....	.....	
16,000	64,000	.031000	.004000	.....	.....	
16,500	66,000	.035333	.004333	.....	.....	
17,000	68,000	.040200	.004867	.....	.....	
17,500	70,000	.047267	.007067	.....	.....	
18,000	72,000	.056167	.010900	.....	.....	
18,500	74,000	.065667	.009500	.....	.....	
19,000	76,000	.0800	.014333	.....	.....	
19,500	78,000	.1067	.0267	.....	.....	
19,610	78,440	.1533	.0466	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8553
Hardness		13.36
Tensile strength per square inch of original section	pounds..	78,440
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2167
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.104
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		1 inch from neck
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		″.33*, ″.19, ″.13

No. 1011.

Marks, $\frac{S\ Ts}{M\ T.O}$.
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load
1,250	5,000	.000067	.000067	0.		
2,500	10,000	.000233	.000166	0.		
3,750	15,000	.000400	.000167	0.		
5,000	20,000	.000567	.000167	0.		
6,250	25,000	.000733	.000166	0.		
7,500	30,000	.000900	.000167	0.		
8,750	35,000	.001067	.000167	0.		
9,000	36,000	.001100	.000033			
9,250	37,000	.001133	.000033			
9,500	38,000	.001200	.000067			
9,750	39,000	.001233	.000033			
10,000	40,000	.001300	.000067	.000067	.000067	
10,250	41,000	.001367	.000067			
10,500	42,000	.001433	.000066			
10,750	43,000	.001500	.000067			Elastic limit.
11,000	44,000	.003733	.002233			
11,250	45,000	.005400	.001667	.003800	.003733	
11,500	46,000	.006800	.000600			
11,750	47,000	.007267	.001267			
12,000	48,000	.008433	.001166			
12,250	49,000	.009333	.000900			
12,500	50,000	.010667	.001334	.008767	.004967	
12,750	51,000	.011333	.000666			
13,000	52,000	.012467	.001134			
13,250	53,000	.013667	.001200			
13,500	54,000	.015100	.001433			
13,750	55,000	.016233	.001133			
14,000	56,000	.017567	.001334			
14,250	57,000	.019000	.001433			
14,500	58,000	.020400	.001400			
14,750	59,000	.021733	.001333			
15,000	60,000	.023600	.001867			
15,500	62,000	.026200	.002600			
16,000	64,000	.030167	.003967			
16,500	66,000	.034167	.004000			
17,000	68,000	.038667	.004500			
17,500	70,000	.044133	.005466			
18,000	72,000	.050833	.006700			
18,500	74,000	.060167	.009334			
19,000	76,000	.072667	.012500			
19,500	78,000	.0933	.020633			
19,890	79,560	.1567	.0634			Tensile strength.
17,100						Load at time of rupture.

General summary.

Tensile strength per square inch of original section	pounds	79,560
Elastic limit per square inch of original section	do	43,000
Elongation per inch after rupture	inch	0.2700
Elongation per inch under strain at elastic limit	do	.001500
Reduction in diameter at point of rupture	do	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		".10 from middle of stem
Character of broken surface		silky; interspersed with fine granulation
Elongation of inch sections		".13, ".44, ".19

No. 1012.

Marks, $\frac{8\ T_{3}}{M\ T_{3}\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

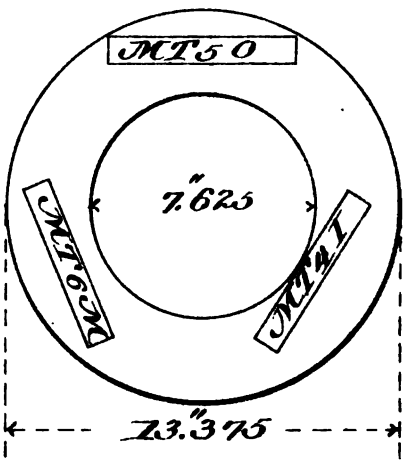
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	.000033	.000033	
7,500	30,000	.000933	.000166	.000033	0.	
8,750	35,000	.001167	.000234	.000067	.000034	
9,000	36,000	.001167	0.	.....	.....	
9,250	37,000	.001233	.000066	.....	.....	
9,500	38,000	.001300	.000067	.....	.....	
9,750	39,000	.001333	.000033	.....	.....	
10,000	40,000	.001400	.000067	.000100	.000033	
10,250	41,000	.001467	.000067	.....	.....	Elastic limit
10,500	42,000	.001633	.000066	.....	.....	
10,750	43,000	.002767	.001134	.....	.....	
11,000	44,000	.005167	.002400	.....	.....	
11,250	45,000	.006600	.001433	.004933	.004833	
11,500	46,000	.007400	.000800	.....	.....	
11,750	47,000	.008167	.000767	.....	.....	
12,000	48,000	.009667	.001500	.....	.....	
12,250	49,000	.011267	.001600	.....	.....	
12,500	50,000	.012100	.000833	.010300	.005367	
12,750	51,000	.012700	.000600	.....	.....	
13,000	52,000	.013667	.000967	.....	.....	
13,250	53,000	.014933	.001266	.....	.....	
13,500	54,000	.016667	.001734	.....	.....	
13,750	55,000	.018167	.001500	.....	.....	
14,000	56,000	.019667	.001500	.....	.....	
14,250	57,000	.020833	.001166	.....	.....	
14,500	58,000	.022667	.001834	.....	.....	
14,750	59,000	.023933	.001266	.....	.....	
15,000	60,000	.025667	.001734	.....	.....	
15,500	62,000	.029333	.003666	.....	.....	
16,000	64,000	.033833	.004500	.....	.....	
16,500	66,000	.038000	.004167	.....	.....	
17,000	68,000	.043667	.005667	.....	.....	
17,500	70,000	.051167	.007500	.....	.....	
18,000	72,000	.060167	.009000	.....	.....	
18,500	74,000	.074667	.014500	.....	.....	
19,500	76,000	.0967	.022330	.....	.....	
19,350	77,400	.1600	.0633	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,400
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.1967
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.074
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		1¼ inches from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.18, ″.22*, ″.2″

Tube No. 36 8" converted Rifle

Additional specimens



H Ex 31 492

No. 2122.

Marks, $\frac{8\ T_{38}}{M\ T_4\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001267	.000067	.....	.....	Elastic limit.
9,750	39,000	.001367	.000100	.....	.....	
10,000	40,000	.002567	.001200	.....	.....	
10,250	41,000	.003567	.001000	.....	.....	
10,500	42,000	.005733	.002166	.....	.....	
10,750	43,000	.006667	.000934	.....	.....	
11,000	44,000	.007867	.001200	.....	.....	
11,250	45,000	.009000	.001133	.....	.....	
11,500	46,000	.010167	.001167	.....	.....	
11,750	47,000	.011100	.000933	.....	.....	
12,000	48,000	.012167	.001067	.....	.....	
12,250	49,000	.013333	.001166	.....	.....	
12,500	50,000	.014500	.001167	.....	.....	
12,750	51,000	.015833	.001333	.....	.....	
13,000	52,000	.017000	.001167	.....	.....	
13,250	53,000	.018367	.001367	.....	.....	
13,500	54,000	.020000	.001633	.....	.....	
13,750	55,000	.021667	.001667	.....	.....	
14,000	56,000	.023333	.001666	.....	.....	
14,250	57,000	.025000	.001667	.....	.....	
14,500	58,000	.026333	.001333	.....	.....	
14,750	59,000	.028167	.001834	.....	.....	
15,000	60,000	.030667	.002500	.....	.....	
15,500	62,000	.035000	.004333	.....	.....	
16,000	64,000	.039333	.004333	.....	.....	
16,500	66,000	.045500	.006167	.....	.....	
17,000	68,000	.052333	.006833	.....	.....	
17,500	70,000	.061667	.009334	.....	.....	
18,000	72,000	.0733	.011633	.....	.....	
18,500	74,000	.0967	.0234	.....	.....	
19,000	76,000	.1067	.0100	.....	.....	
19,840	79,360	.1633	.0566	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,360
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		¾ inch from neck
Character of broken surface	silky, 90 per centum; granular at circumference, 10 per cent	
Elongation of inch sections		″.37, ″.18, ″14.

No. 2123.

Marks, $\frac{S\ T}{M\ T}$ O
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001033	.000100	0.	.....	
9,000	36,000	.001100	.000067	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001200	.000067	.....	.....	Elastic limit.
9,750	39,000	.001300	.000100	.....	.....	
10,000	40,000	.001933	.000633	.....	.....	
10,250	41,000	.002667	.000734	.....	.....	
10,500	42,000	.004933	.002266	.....	.....	
10,750	43,000	.006000	.001067	.....	.....	
11,000	44,000	.007133	.001133	.....	.....	
11,250	45,000	.008067	.000934	.....	.....	
11,500	46,000	.009333	.001266	.....	.....	
11,750	47,000	.010233	.000900	.....	.....	
12,000	48,000	.011367	.001134	.....	.....	
12,250	49,000	.012667	.001300	.....	.....	
12,500	50,000	.013667	.001000	.....	.....	
12,750	51,000	.014667	.001000	.....	.....	
13,000	52,000	.016000	.001333	.....	.....	
13,250	53,000	.017067	.001067	.....	.....	
13,500	54,000	.018500	.001433	.....	.....	
13,750	55,000	.019833	.001333	.....	.....	
14,000	56,000	.021400	.001567	.....	.....	
14,250	57,000	.022900	.001500	.....	.....	
14,500	58,000	.024833	.001933	.....	.....	
14,750	59,000	.026667	.001834	.....	.....	
15,000	60,000	.028233	.001566	.....	.....	
15,500	62,000	.032267	.004034	.....	.....	
16,000	64,000	.036667	.004400	.....	.....	
16,500	66,000	.042500	.005833	.....	.....	
17,000	68,000	.048667	.006167	.....	.....	
17,500	70,000	.056167	.007500	.....	.....	
18,000	72,000	.066667	.010500	.....	.....	
18,500	74,000	.0833	.016633	.....	.....	
19,000	76,000	.1100	.0267	.....	.....	
19,250	77,000	.1500	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,000
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2213
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		⅜ inch from break
Character of broken surface		silky
Elongation of inch sections		".38", ".18, ".12

No. 2124.

Marks, $\frac{8\,T_{36}}{M\,T_6\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	
10,000	40,000	.001367	.000067	.000100	.000100	Elastic limit.
10,250	41,000	.002700	.001333	.....	.....	
10,500	42,000	.004667	.001967	.....	.....	
10,750	43,000	.006100	.001433	.....	.....	
11,000	44,000	.007300	.001200	.....	.....	
11,250	45,000	.008400	.001100	.....	.....	
11,500	46,000	.009567	.001167	.....	.....	
11,750	47,000	.010667	.001100	.....	.....	
12,000	48,000	.011700	.001033	.....	.....	
12,250	49,000	.012833	.001133	.....	.....	
12,500	50,000	.014000	.001167	.....	.....	
12,750	51,000	.015233	.001233	.....	.....	
13,000	52,000	.016667	.001434	.....	.....	
13,250	53,000	.018000	.001333	.....	.....	
13,500	54,000	.019333	.001333	.....	.....	
13,750	55,000	.020833	.001500	.....	.....	
14,000	56,000	.022500	.001667	.....	.....	
14,250	57,000	.024167	.001667	.....	.....	
14,500	58,000	.025833	.001666	.....	.....	
14,750	59,000	.028000	.002167	.....	.....	
15,000	60,000	.029933	.001933	.....	.....	
15,500	62,000	.033333	.003400	.....	.....	
16,000	64,000	.038333	.005000	.....	.....	
16,500	66,000	.044167	.005834	.....	.....	
17,000	68,000	.050667	.006500	.....	.....	
17,500	70,000	.060000	.009333	.....	.....	
18,000	72,000	.0700	.0100	.....	.....	
18,500	74,000	.0933	.0233	.....	.....	
19,000	76,000	.1367	.0434	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,000
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2233
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		½ inch from middle of stem
Character of broken surface		silky; with slight granulation
Elongation of inch sections		″.23, ″.33*, ″.11

No. 992.

Marks, $\frac{8\ T_W}{B\ T_1\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	0.	.....	
2,500	10,000	.000167	.000100	0.	.....	
3,750	15,000	.000367	.000200	0.	.....	
5,000	20,000	.000533	.000166	0.	.....	
6,250	25,000	.000700	.000167	0.	.....	
7,500	30,000	.000833	.000133	0.	.....	
8,750	35,000	.001000	.000167	0.	.....	
10,000	40,000	.001200	.000200	0.	.....	
10,250	41,000	.001233	.000033	.....	.....	
10,500	42,000	.001300	.000067	.....	.....	
10,750	43,000	.001333	.000033	.....	.....	Elastic limit.
11,000	44,000	.007200	.005867	.....	.....	
11,250	45,000	.008067	.000867	.006400	.006400	
11,500	46,000	.009000	.000933	.....	.....	
11,750	47,000	.010000	.001000	.....	.....	
12,000	48,000	.011000	.001000	.....	.....	
12,250	49,000	.012133	.001133	.....	.....	
12,500	50,000	.013600	.001467	.011600	.005200	Rested one hour under initial load.
12,750	51,000	.014267	.000667	.....	.....	
13,000	52,000	.015733	.001466	.....	.....	
13,250	53,000	.016933	.001200	.....	.....	
13,500	54,000	.018600	.001667	.....	.....	
13,750	55,000	.019700	.001100	.....	.....	
14,000	56,000	.021433	.001733	.....	.....	
14,250	57,000	.022733	.001300	.....	.....	
14,500	58,000	.024333	.001600	.....	.....	
14,750	59,000	.025733	.001400	.....	.....	
15,000	60,000	.027667	.001934	.....	.....	
15,500	62,000	.031333	.003666	.....	.....	
16,000	64,000	.034700	.003367	.....	.....	
16,500	66,000	.039500	.004800	.....	.....	
17,000	68,000	.045333	.005833	.....	.....	
17,500	70,000	.053733	.008400	.....	.....	
18,000	72,000	.062667	.008934	.....	.....	
18,500	74,000	.072000	.009333	.....	.....	
19,000	76,000	.0933	.0213	.....	.....	
19,440	77,760	.....	.....	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8494
Hardness	13.46
Tensile strength per square inch of original section ..... pounds..	77,760
Elastic limit per square inch of original section ..... do...	43,000
Elongation per inch after rupture ..... inch..	0.2867
Elongation per inch under strain at elastic limit ..... do...	.001333
Reduction in diameter at point of rupture ..... do...	.084
Reduction in area after rupture, per centum of original section	27.6
Position of rupture	½ inch from middle of stem
Character of broken surface	granular; radiating from a dull spot at the circumference
Elongation of inch sections	".18, ".29, ".15

No. 992½.

Marks, $\frac{8\,T\,w}{B\,T_2\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001167	.000200	.000033	.000033	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	Elastic limit.
9,750	39,000	.007400	.006133	.....	.....	
10,000	40,000	.009167	.001767	.007600	.007567	
10,250	41,000	.009667	.000500	.....	.....	
10,500	42,000	.010333	.000666	.....	.....	
10,750	43,000	.011333	.001000	.....	.....	
11,000	44,000	.012667	.001334	.....	.....	
11,250	45,000	.013667	.001000	.011933	.004333	
11,500	46,000	.014867	.001200	.....	.....	
11,750	47,000	.015600	.000733	.....	.....	
12,000	48,000	.016933	.001333	.....	.....	
12,250	49,000	.018000	.001067	.....	.....	
12,500	50,000	.019300	.001300	.017300	.005367	
12,750	51,000	.020267	.000967	.....	.....	
13,000	52,000	.021567	.001300	.....	.....	
13,250	53,000	.023000	.001433	.....	.....	
13,500	54,000	.024500	.001500	.....	.....	
13,750	55,000	.026333	.001833	.....	.....	
14,000	56,000	.027767	.001434	.....	.....	
14,250	57,000	.029333	.001566	.....	.....	
14,500	58,000	.031200	.001867	.....	.....	
14,750	59,000	.032767	.001567	.....	.....	
15,000	60,000	.035000	.002233	.....	.....	
15,500	62,000	.039867	.004867	.....	.....	
16,000	64,000	.045167	.005300	.....	.....	
16,500	66,000	.050000	.004833	.....	.....	
17,000	68,000	.056667	.006667	.....	.....	
17,500	70,000	.066000	.009333	.....	.....	
18,000	72,000	.078167	.012167	.....	.....	
18,500	74,000	.1000	.021833	.....	.....	
19,000	76,000	.1267	.0267	.....	.....	
19,130	76,520	.1733	.0466	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,520
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2167
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		″.3 from middle of stem
Charact r of broken surface		silky, 90 per centum; granular, 10 per centum
Elongation of inch sections		″.17, ″.33*, ″.15

No. 993.

Marks, $\overset{8\ Tw}{B\ T,\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000233	.000100	0.	.....	
3,750	15,000	.000433	.000200	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001067	.000134	0.	.....	
9,000	36,000	.001133	.000066	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	Elastic limit.
9,500	38,000	.001300	.000133	.....	.....	
9,750	39,000	.007967	.006667	.....	.....	
10,000	40,000	.009033	.001066	.007400	.007400	
10,250	41,000	.009833	.000800	.....	.....	
10,500	42,000	.010267	.000434	.....	.....	
10,750	43,000	.011000	.000733	.....	.....	
11,000	44,000	.012300	.001300	.....	.....	
11,250	45,000	.013433	.001133	.....	.....	
11,500	46,000	.014367	.000934	.....	.....	
11,750	47,000	.015367	.001000	.....	.....	
12,000	48,000	.016533	.001166	.....	.....	
12,250	49,000	.017667	.001134	.....	.....	
12,500	50,000	.018933	.001266	.....	.....	
12,750	51,000	.020000	.001067	.....	.....	
13,000	52,000	.021500	.001500	.....	.....	
13,250	53,000	.022767	.001267	.....	.....	
13,500	54,000	.024267	.001500	.....	.....	
13,750	55,000	.025667	.001400	.....	.....	
14,000	56,000	.027067	.001400	.....	.....	
14,250	57,000	.028600	.001533	.....	.....	
14,500	58,000	.030367	.001767	.....	.....	
14,750	59,000	.032333	.001966	.....	.....	
15,000	60,000	.034233	.001900	.....	.....	
15,500	62,000	.038100	.003867	.....	.....	
16,000	64,000	.042833	.004733	.....	.....	
16,500	66,000	.048000	.005167	.....	.....	
17,000	68,000	.054333	.006333	.....	.....	
17,500	70,000	.061500	.007167	.....	.....	
18,000	72,000	.070833	.009333	.....	.....	
18,500	74,000	.0800	.009167	.....	.....	
19,000	76,000	.1033	.0233	.....	.....	
19,500	78,000	.1333	.0300	.....	.....	
19,540	78,160	.1667	.0334	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,160
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do ..	.00116
Reduction in diameter at point of rupture	do...	.074
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		".15 from middle of stem
Character of broken surface	granular;	dull spot at circumference
Elongation of inch sections		".13, ".27", ".14

No. 994.

Marks, $\frac{8\ T_W}{M\ T_1\ I}$
Diameter, ".563.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001200	.000067	.....	.....	
9,750	39,000	.001200	0.	.....	.....	
10,000	40,000	.001233	.000033	0.	.....	
10,250	41,000	.001233	0.	.....	.....	Elastic limit.
10,500	42,000	.001333	.000100	.....	.....	
10,750	43,000	.005333	.004000	.....	.....	
11,000	44,000	.009000	.003667	.....	.....	
11,250	45,000	.010000	.001000	.008233	.008233	
11,500	46,000	.010833	.000833	.....	.....	
11,750	47,000	.011633	.000800	.....	.....	
12,000	48,000	.012867	.001234	.....	.....	
12,250	49,000	.013933	.001066	.....	.....	
12,500	50,000	.015300	.001367	.013100	.005167	
12,750	51,000	.015967	.000667	.....	.....	
13,000	52,000	.016833	.000866	.....	.....	
13,250	53,000	.018100	.001267	.....	.....	
13,500	54,000	.019533	.001433	.....	.....	
13,750	55,000	.020833	.001300	.....	.....	
14,000	56,000	.022667	.001834	.....	.....	
14,250	57,000	.024000	.001333	.....	.....	
14,500	58,000	.025333	.001333	.....	.....	
14,750	59,000	.026667	.001334	.....	.....	
15,000	60,000	.028567	.001900	.....	.....	
15,500	62,000	.032067	.003500	.....	.....	
16,000	64,000	.036000	.003933	.....	.....	
16,500	66,000	.040433	.004433	.....	.....	
17,000	68,000	.045067	.004634	.....	.....	
17,500	70,000	.052500	.007433	.....	.....	
18,000	72,000	.059333	.006833	.....	.....	
18,500	74,000	.069500	.010167	.....	.....	
19,000	76,000	.0867	.0172	.....	.....	
19,500	78,000	.1067	.0200	.....	.....	
19,820	79,280	.1733	.0666	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8481
Hardness	12.66
Tensile strength per square inch of original section, pounds	79,280
Elastic limit per square inch of original section, do	41,000
Elongation per inch after rupture, inch	0.1733
Elongation per inch under strain at elastic limit, do	.001233
Reduction in diameter at point of rupture, do	.053
Reduction in area after rupture, per centum of original section	18.3
Position of rupture	½ inch from neck
Character of broken surface	granular; radiating from a dull spot at the circumference
Elongation of inch sections	".20", ".18, ".14

No. 995.

Marks, $\frac{8\,T_{37}}{M\,T_2\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001133	.000066	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001333	.000100	.000033	.000033	
10,250	41,000	.001400	.000067	.....	.....	Elastic limit.
10,500	42,000	.011000	.009600	.....	.....	
10,750	43,000	.011667	.000667	.....	.....	
11,000	44,000	.013133	.001466	.....	.....	
11,250	45,000	.013600	.000467	.011800	.011767	
11,500	46,000	.014500	.000900	.....	.....	
11,750	47,000	.015600	.001100	.....	.....	
12,000	48,000	.016533	.000933	.....	.....	
12,250	49,000	.017867	.001334	.....	.....	
12,500	50,000	.019333	.001466	.017300	.005500	
12,750	51,000	.019900	.000567	.....	.....	
13,000	52,000	.020667	.000767	.....	.....	
13,250	53,000	.022333	.001666	.....	.....	
13,500	54,000	.024267	.001934	.....	.....	
13,750	55,000	.026000	.001733	.....	.....	
14,000	56,000	.027500	.001500	.....	.....	
14,250	57,000	.028833	.001333	.....	.....	
14,500	58,000	.030600	.001767	.....	.....	
14,750	59,000	.032167	.001567	.....	.....	
15,000	60,000	.034367	.002200	.....	.....	
15,500	62,000	.037500	.003133	.....	.....	
16,000	64,000	.042933	.005433	.....	.....	
16,500	66,000	.048167	.005234	.....	.....	
17,000	68,000	.055333	.007166	.....	.....	
17,500	70,000	.063667	.008334	.....	.....	
18,000	72,000	.073333	.009666	.....	.....	
18,500	74,000	.0867	.013367	.....	.....	
19,000	76,000	.1067	.0200	.....	.....	
19,490	77,960	.1933	.0866	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,960
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.3033
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		at middle of stem
Character of broken surface		fine silky
Elongation of inch sections		″.22, ″.48″, ″.21

No. 996.

Marks, $\frac{8\,T_{3r}}{M\,T_1\,M}$
Diameter, ″.563.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001200	.000067	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001300	.000033	0.	.....	
10,250	41,000	.001367	.000067	.....	.....	Elastic limit.
10,500	42,000	.001433 .008700	.000066 .007267	.....	.....	
10,750	43,000	.010000	.001300	.....	.....	
11,000	44,000	.011167	.001167	.....	.....	
11,250	45,000	.011667	.000500	.010000	.010000	
11,500	46,000	.012800	.001133	.....	.....	
11,750	47,000	.013500	.000700	.....	.....	
12,000	48,000	.014600	.001100	.....	.....	
12,250	49,000	.015533	.000933	.....	.....	
12,500	50,000	.016733	.001200	.014700	.004700	
12,750	51,000	.017467	.000734	.....	.....	
13,000	52,000	.018600	.001133	.....	.....	
13,250	53,000	.019500	.000900	.....	.....	
13,500	54,000	.021000	.001500	.....	.....	
13,750	55,000	.022100	.001100	.....	.....	
14,000	56,000	.023667	.001567	.....	.....	
14,250	57,000	.024500	.000833	.....	.....	
14,500	58,000	.026267	.001767	.....	.....	
14,750	59,000	.027367	.001100	.....	.....	
15,000	60,000	.029000	.001633	.....	.....	
15,500	62,000	.032367	.003367	.....	.....	
16,000	64,000	.036100	.003733	.....	.....	
16,500	66,000	.039833	.003733	.....	.....	
17,000	68,000	.044167	.004334	.....	.....	
17,500	70,000	.049333	.005166	.....	.....	
18,000	72,000	.056667	.007334	.....	.....	
18,500	74,000	.062333	.005666	.....	.....	
19,000	76,000	.071667	.009334	.....	.....	
19,500	78,000	.0833	.011633	.....	.....	
20,000	80,000	.1033	.0200	.....	.....	
20,500	82,000	.1400	.0367	.....	.....	
20,580	82,320	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,320
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.053
Reduction in area after rupture, per centum of original section		18.2
Position of rupture		″.3 from neck
Character of broken surface, dull-colored furrowed surface; small granular section near circumference		
Elongation of inch sections		″.20*, ″.16, ″.18

[Additional specimens.]

No. 2128.

Marks, $\frac{8\ T_{27}}{B\ T_4\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001100	.000133	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001267	.000034	0.	.....	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	Elastic limit.
11,000	44,000	.010867	.009467	.....	.....	
11,250	45,000	.011533	.000666	.....	.....	
11,500	46,000	.012433	.000900	.....	.....	
11,750	47,000	.013533	.001100	.....	.....	
12,000	48,000	.015133	.001600	.....	.....	
12,250	49,000	.016367	.001234	.....	.....	
12,500	50,000	.017833	.001466	.....	.....	
13,000	52,000	.021000	.003167	.....	.....	
13,500	54,000	.024500	.003500	.....	.....	
14,000	56,000	.028000	.003500	.....	.....	
14,500	58,000	.032000	.004000	.....	.....	
15,000	60,000	.036667	.004667	.....	.....	
15,500	62,000	.043333	.006666	.....	.....	
16,000	64,000	.051333	.008000	.....	.....	
16,500	66,000	.057667	.006334	.....	.....	
17,000	68,000	.0700	.012333	.....	.....	
17,500	70,000	.0900	.0200	.....	.....	
18,000	72,000	.1267	.0367	.....	.....	
18,060	72,240	.1667	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	72,240
Elastic limit per square inch of original section	do	43,000
Elongation per inch after rupture	inch	0.2433
Elongation per inch under strain at elastic limit	do	.001400
Reduction in diameter at point of rupture	do	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.37″, ″.23, ″.13

No. 2129.

Marks, $\frac{S\ T_2}{B\ T_1\ O}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000533	.000133	0.	.....	
6,250	25,000	.000667	.000134	0.	.....	
7,500	30,000	.000867	.000200	0.	.....	
8,750	35,000	.001000	.000133	0.	.....	
10,000	40,000	.001200	.000200	0.	.....	
10,250	41,000	.001233	.000033	.....	.....	
10,500	42,000	.001267	.000034	.....	.....	
10,750	43,000	.001333	.000066	.....	.....	
11,000	44,000	.001367	.000034	.....	.....	
11,250	45,000	.001400	.000033	.000033	.000033	
11,500	46,000	.001433	.000033	.....	.....	
11,750	47,000	.001500	.000067	.....	.....	Elastic limit.
12,000	48,000	.004933	.003433	.....	.....	
12,250	49,000	.015700	.010767	.....	.....	
12,500	50,000	.016800	.001100	.....	.....	
12,750	51,000	.018200	.001400	.....	.....	
13,000	52,000	.019533	.001333	.....	.....	
13,250	53,000	.020433	.000900	.....	.....	
13,500	54,000	.021800	.001367	.....	.....	
13,750	55,000	.023067	.001267	.....	.....	
14,000	56,000	.024667	.001600	.....	.....	
14,250	57,000	.026333	.001666	.....	.....	
14,500	58,000	.028067	.001734	.....	.....	
14,750	59,000	.029667	.001600	.....	.....	
15,000	60,000	.031533	.001866	.....	.....	
15,500	62,000	.035000	.003467	.....	.....	
16,000	64,000	.040000	.005000	.....	.....	
16,500	66,000	.045667	.005667	.....	.....	
17,000	68,000	.051500	.005833	.....	.....	
17,500	70,000	.058333	.006833	.....	.....	
18,000	72,000	.068333	.010000	.....	.....	
18,500	74,000	.0800	.011667	.....	.....	
19,000	76,000	.1000	.0200	.....	.....	
19,500	78,000	.1733	.0733	.....	.....	Tensil strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,000
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.125
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		".45 from middle of stem
Character of broken surface		silky; cracks opened in surface of stem
Elongation of inch sections		".21, ".35, ".14

No. 2130.

Marks, $\overset{8\ T_{37}}{B\ T_c\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000367	.000234	0.		
3,750	15,000	.000533	.000166	0.		
5,000	20,000	.000700	.000167	0.		
6,250	25,000	.000867	.000167	0.		
7,500	30,000	.001033	.000166	.000033	.000033	
8,750	35,000	.001167	.000134	.000033	0.	
9,000	36,000	.001200	.000033			
9,250	37,000	.001233	.000033			
9,500	38,000	.001267	.000034			
9,750	39,000	.001300	.000033			
10,000	40,000	.001400	.000100	.000067	.000034	
10,250	41,000	.001433	.000033			Elastic limit.
10,500	42,000	.010333	.008900			
10,750	43,000	.010933	.000600			
11,000	44,000	.012033	.001100			
11,250	45,000	.013033	.001000			
11,500	46,000	.014067	.001034			
11,750	47,000	.015333	.001266			
12,000	48,000	.016733	.001400			
12,250	49,000	.018067	.001334			
12,500	50,000	.019333	.001266			
12,750	51,000	.020733	.001400			
13,000	52,000	.022000	.001267			
13,250	53,000	.023733	.001733			
13,500	54,000	.025433	.001700			
13,750	55,000	.027067	.001634			
14,000	56,000	.029000	.001933			
14,250	57,000	.030800	.001800			
14,500	58,000	.032833	.002033			
14,750	59,000	.034700	.001867			
15,000	60,000	.037433	.002733			
15,500	62,000	.042833	.005400			
16,000	64,000	.049333	.006500			
16,500	66,000	.057000	.007667			
17,000	68,000	.068000	.011000			
17,500	70,000	.0833	.0153			
18,000	72,000	.1033	.0200			
18,490	73,960	.1567	.0534			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,960
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2133
Elongation per inch under strain at elastic limit	do...	0.001433
Reduction in diameter at point of rupture	do...	.104
Reduction in area after rupture, per centum of original section		32.5
Position of rupture		".95 from neck
Character of broken surface, granular, 50 per centum; dull silky, 50 per centum; cracks opened in surface of stem.		
Elongation of inch sections		".29", ".22, ".13

No. 2131.

Marks, $\frac{S\ T_W}{M\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000433	.000200	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000733	.000133	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001133	.000066	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001267	.000034	0.	.....	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001333	.000033	.....	.....	
10,750	43,000	.001367	.000034	.....	.....	Elastic limit.
11,000	44,000	.015533	.014166	.....	.....	
11,250	45,000	.016233	.000700	.....	.....	
11,500	46,000	.017500	.001267	.....	.....	
11,750	47,000	.018700	.001200	.....	.....	
12,000	48,000	.020133	.001433	.....	.....	
12,250	49,000	.021700	.001567	.....	.....	
12,500	50,000	.023200	.001500	.....	.....	
12,750	51,000	.024867	.001667	.....	.....	
13,000	52,000	.026667	.001800	.....	.....	
13,250	53,000	.028167	.001500	.....	.....	
13,500	54,000	.029867	.001700	.....	.....	
13,750	55,000	.031667	.001800	.....	.....	
14,000	56,000	.034333	.002666	.....	.....	
14,250	57,000	.036367	.002034	.....	.....	
14,500	58,000	.039333	.002966	.....	.....	
14,750	59,000	.042167	.002834	.....	.....	
15,000	60,000	.045500	.003333	.....	.....	
15,500	62,000	.051500	.006000	.....	.....	
16,000	64,000	.059500	.008000	.....	.....	
16,500	66,000	.0700	.0105	.....	.....	
17,000	68,000	.0867	.0167	.....	.....	
17,500	70,000	.1067	.0200	.....	.....	
18,000	72,000	.1600	.0533	.....	.....	
18,030	72,120	.1833	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,120
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2767
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		at middle of stem
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".19, ".44*, ".20

No. 2132.

Marks, $\frac{8\,T_{37}}{M\,T_5\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,200	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001167	0.	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001267	.000034	.....	.....	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	Elastic limit.
11,000	44,000	.011667	.010267	.....	.....	
11,250	45,000	.012000	.000333	.....	.....	
11,500	46,000	.012833	.000833	.....	.....	
11,750	47,000	.013833	.001000	.....	.....	
12,000	48,000	.015400	.001567	.....	.....	
12,250	49,000	.016333	.000933	.....	.....	
12,500	50,000	.018000	.001667	.....	.....	
12,750	51,000	.019333	.001333	.....	.....	
13,000	52,000	.021167	.001834	.....	.....	
13,250	53,000	.022667	.001500	.....	.....	
13,500	54,000	.024333	.001666	.....	.....	
13,750	55,000	.025667	.001334	.....	.....	
14,000	56,000	.027000	.001333	.....	.....	
14,250	57,000	.028733	.001733	.....	.....	
14,500	58,000	.031000	.002267	.....	.....	
14,750	59,000	.032767	.001767	.....	.....	
15,000	60,000	.035267	.002500	.....	.....	
15,500	62,000	.040667	.005400	.....	.....	
16,000	64,000	.046167	.005500	.....	.....	
16,500	66,000	.053000	.006833	.....	.....	
17,000	68,000	.062333	.009333	.....	.....	
17,500	70,000	.074000	.011667	.....	.....	
18,000	72,000	.0967	.0227	.....	.....	
18,500	74,000	.1267	.0300	.....	.....	
18,700	74,800	.1767	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,800
Elastic limit per square inch of original section	do ..	43,000
Elongation per inch after rupture	inch..	0.2833
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		″.20 from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.21, ″.47, ″.17

No. 2133.

Marks, $\frac{8\,T_{37}}{M\,T_6\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000567	.000134	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001200	.000033	.....	.....	
10,000	40,000	.001233	.000033	0.	.....	
10,250	41,000	.001267	.000034	.....	.....	Elastic limit.
10,500	42,000	.012700	.011433	.....	.....	
10,750	43,000	.013167	.000467	.....	.....	
11,000	44,000	.014067	.000900	.....	.....	
11,250	45,000	.014933	.000866	.....	.....	
11,500	46,000	.016100	.001167	.....	.....	
11,750	47,000	.017367	.001267	.....	.....	
12,000	48,000	.019033	.001666	.....	.....	
12,250	49,000	.020500	.001467	.....	.....	
12,500	50,000	.021800	.001300	.....	.....	
12,750	51,000	.023333	.001533	.....	.....	
13,000	52,000	.025000	.001667	.....	.....	
13,250	53,000	.026500	.001500	.....	.....	
13,500	54,000	.028333	.001833	.....	.....	
13,750	55,000	.029733	.001400	.....	.....	
14,000	56,000	.032000	.002267	.....	.....	
14,250	57,000	.033733	.001733	.....	.....	
14,500	58,000	.036167	.002434	.....	.....	
14,750	59,000	.038333	.002166	.....	.....	
15,000	60,000	.041167	.002834	.....	.....	
15,500	62,000	.047333	.006166	.....	.....	
16,000	64,000	.054000	.006667	.....	.....	
16,500	66,000	.062833	.008833	.....	.....	
17,000	68,000	.0733	.010467	.....	.....	
17,500	70,000	.0900	.0167	.....	.....	
18,000	72,000	.1133	.0233	.....	.....	
18,390	73,560	.1900	.0767	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,560
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2733
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		1″.1 from neck
Character of broken surface		silky; traces of granulation
Elongation of inch sections		″.37*, ″.26, ″.19

No. 2092.

Marks, $\frac{8\ T_{2a}}{B\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001067	.000134	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	
10,250	41,000	.001233	0.	.....	.....	
10,500	42,000	.001300	.000067	.....	.....	
10,750	43,000	.001333	.000033	.....	.....	
11,000	44,000	.001400	.000067	.....	.....	Elastic limit.
11,250	45,000	.002500	.001100	.....	.....	
11,500	46,000	.005000	.002500	.....	.....	
11,750	47,000	.006667	.001667	.....	.....	
12,000	48,000	.008000	.001333	.....	.....	
12,250	49,000	.009000	.001000	.....	.....	
12,500	50,000	.010267	.001267	.....	.....	
12,750	51,000	.011067	.000800	.....	.....	
13,000	52,000	.012367	.001300	.....	.....	
13,250	53,000	.013333	.000966	.....	.....	
13,500	54,000	.014467	.001134	.....	.....	
13,750	55,000	.015833	.001366	.....	.....	
14,000	56,000	.017267	.001434	.....	.....	
14,250	57,000	.018600	.001333	.....	.....	
14,500	58,000	.020000	.001400	.....	.....	
14,750	59,000	.021333	.001333	.....	.....	
15,000	60,000	.022833	.001500	.....	.....	
15,500	62,000	.026233	.003400	.....	.....	
16,000	64,000	.030000	.003767	.....	.....	
16,500	66,000	.034000	.004000	.....	.....	
17,000	68,000	.038067	.004067	.....	.....	
17,500	70,000	.044000	.005933	.....	.....	
18,000	72,000	.050667	.006667	.....	.....	
18,500	74,000	.060000	.009333	.....	.....	
19,000	76,000	.0633	.0133	.....	.....	
19,500	78,000	.1000	.0267	.....	.....	
19,910	79,640	.1567	.0567	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8600
Hardness	14.33
Tensile strength per square inch of original section ... pounds	79,640
Elastic limit per square inch of original section ... do	44,000
Elongation per inch after rupture ... inch	0.2500
Elongation per inch under strain at elastic limit ... do	.001400
Reduction in diameter at point of rupture ... do	.184
Reduction in area after rupture, per centum of original section	54.6
Position of rupture	1″.05 from neck
Character of broken surface	silky
Elongation of inch sections	″.42°, ″.22, ″.11

No. 2093.

Marks, $\frac{S\ T_m}{B\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000233	.000100	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0	.....	
7,500	30,000	.000900	.000167	0	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	
10,250	41,000	.001267	.000034	.....	.....	
10,500	42,000	.001300	.000033	.....	.....	
10,750	43,000	.001333	.000033	.....	.....	
11,000	44,000	.001367	.000034	.....	.....	
11,250	45,000	.001400	.000033	0.	.....	
11,500	46,000	.001467	.000067	.....	.....	Elastic limit.
11,750	47,000	.001567	.000100	.....	.....	
12,000	48,000	.002500	.000933	.....	.....	
12,250	49,000	.004133	.001633	.....	.....	
12,500	50,000	.006000	.001867	.....	.....	
12,750	51,000	.006700	.000700	.....	.....	
13,000	52,000	.007733	.001033	.....	.....	
13,250	53,000	.008733	.001000	.....	.....	
13,500	54,000	.009700	.000967	.....	.....	
13,750	55,000	.010500	.000800	.....	.....	
14,000	56,000	.011500	.001000	.....	.....	
14,250	57,000	.012500	.001000	.....	.....	
14,500	58,000	.013667	.001167	.....	.....	
14,750	59,000	.014667	.001000	.....	.....	
15,000	60,000	.015733	.001067	.....	.....	
15,500	62,000	.018333	.002600	.....	.....	
16,000	64,000	.020433	.002100	.....	.....	
16,500	66,000	.023733	.003300	.....	.....	
17,000	68,000	.026333	.002600	.....	.....	
17,500	70,000	.029667	.003334	.....	.....	
18,000	72,000	.033333	.003666	.....	.....	
18,500	74,000	.037767	.004434	.....	.....	
19,000	76,000	.043333	.005566	.....	.....	
19,500	78,000	.049333	.006000	.....	.....	
20,000	80,000	.056167	.006834	.....	.....	
20,500	82,000	.067000	.010833	.....	.....	
21,000	84,000	.0867	.0197	.....	.....	
21,500	86,000	.1200	.0333	.....	.....	
21,550	86,200	.1500	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,200
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.2367
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		".20 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".21, ".38*, ".12

No. 2094.

Marks, $\frac{S\ Ts}{B\ T,\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000833	.000200	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
10,000	40,000	.001367	.000200	0.	.....	
10,250	41,000	.001400	.000033	.....	.....	Elastic limit.
10,500	42,000	.001500	.000100	.....	.....	
10,750	43,000	.006000	.004500	.....	.....	
11,000	44,000	.008100	.002100	.....	.....	
11,250	45,000	.009000	.000900	.....	.....	
11,500	46,000	.010000	.001000	.....	.....	
11,750	47,000	.010800	.000800	.....	.....	
12,000	48,000	.011933	.001133	.....	.....	
12,250	49,000	.013000	.001067	.....	.....	
12,500	50,000	.014167	.001167	.....	.....	
12,750	51,000	.015333	.001166	.....	.....	
13,000	52,000	.016667	.001334	.....	.....	
13,250	53,000	.018000	.001333	.....	.....	
13,500	54,000	.019167	.001167	.....	.....	
13,750	55,000	.020667	.001500	.....	.....	
14,000	56,000	.022333	.001666	.....	.....	
14,250	57,000	.023400	.001067	.....	.....	
14,500	58,000	.025167	.001767	.....	.....	
14,750	59,000	.027167	.002000	.....	.....	
15,000	60,000	.029000	.001833	.....	.....	
15,500	62,000	.032700	.003700	.....	.....	
16,000	64,000	.037067	.004367	.....	.....	
16,500	66,000	.042500	.005433	.....	.....	
17,000	68,000	.048667	.006167	.....	.....	
17,500	70,000	.056333	.007666	.....	.....	
18,000	72,000	.066667	.010334	.....	.....	
18,500	74,000	.0900	.023333	.....	.....	
19,000	76,000	.1233	.0333	.....	.....	
19,140	76,560	.1633	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,560
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2867
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		32.2
Position of rupture		½ inch from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.18, ″.47″, ″.15

No. 2095.

Marks, $\frac{8\ T_{s}}{M\ T_{1}\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000200	.000100	0.	.....	
3,750	15,000	.000367	.000167	0.	.....	
5,000	20,000	.000533	.000166	0.	.....	
6,250	25,000	.000700	.000167	0.	.....	
7,500	30,000	.000867	.000167	0.	.....	
8,750	35,000	.001033	.000166	0.	.....	
10,000	40,000	.001200	.000167	0.	.....	
10,250	41,000	.001233	.000033	.....	.....	
10,500	42,000	.001300	.000067	.....	.....	Elastic limit.
10,750	43,000	.001433	.000133	.....	.....	
11,000	44,000	.004400	.002967	.....	.....	
11,250	45,000	.006867	.002467	.....	.....	
11,500	46,000	.007400	.000533	.....	.....	
11,750	47,000	.008267	.000867	.....	.....	
12,000	48,000	.009367	.001100	.....	.....	
12,250	49,000	.010233	.000866	.....	.....	
12,500	50,000	.011367	.001134	.....	.....	
12,750	51,000	.012267	.000900	.....	.....	
13,000	52,000	.013167	.000900	.....	.....	
13,250	53,000	.014200	.001033	.....	.....	
13,500	54,000	.015167	.000967	.....	.....	
13,750	55,000	.016233	.001066	.....	.....	
14,000	56,000	.017533	.001300	.....	.....	
14,250	57,000	.018667	.001134	.....	.....	
14,500	58,000	.019933	.001266	.....	.....	
14,750	59,000	.021367	.001434	.....	.....	
15,000	60,000	.022833	.001466	.....	.....	
15,500	62,000	.026000	.003167	.....	.....	
16,000	64,000	.028667	.002667	.....	.....	
16,500	66,000	.032833	.004166	.....	.....	
17,000	68,000	.036667	.003834	.....	.....	
17,500	70,000	.041400	.004733	.....	.....	
18,000	72,000	.046833	.005433	.....	.....	
18,500	74,000	.053000	.006167	.....	.....	
19,000	76,000	.061500	.008500	.....	.....	
19,500	78,000	.072000	.010500	.....	.....	
20,000	80,000	.0933	.0213	.....	.....	
20,500	82,000	.1200	.0267	.....	.....	
20,610	82,440	.1633	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,440
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2433
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		″.95 from neck
Character of broken surface		silky
Elongation of inch sections		″.41*, ″.19, ″.13

No. 2096.

Marks, $\frac{8\ T_{28}}{M\ T_2\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	.000033	.000033	
8,750	35,000	.001133	.000133	.000067	.000034	
10,000	40,000	.001333	.000200	.000067	0.	Elastic limit.
10,250	41,000	.004000	.002667	.....	.....	
10,500	42,000	.005367	.001367	.....	.....	
10,750	43,000	.006367	.001000	.....	.....	
11,000	44,000	.007467	.001100	.....	.....	
11,250	45,000	.008533	.001066	.....	.....	
11,500	46,000	.009567	.001034	.....	.....	
11,750	47,000	.010567	.001000	.....	.....	
12,000	48,000	.011500	.000933	.....	.....	
12,250	49,000	.012500	.001000	.....	.....	
12,500	50,000	.013500	.001000	.....	.....	
12,750	51,000	.014467	.000967	.....	.....	
13,000	52,000	.015633	.001166	.....	.....	
13,250	53,000	.016767	.001134	.....	.....	
13,500	54,000	.018100	.001333	.....	.....	
13,750	55,000	.019133	.001033	.....	.....	
14,000	56,000	.020400	.001267	.....	.....	
14,250	57,000	.021433	.001033	.....	.....	
14,500	58,000	.023000	.001567	.....	.....	
14,750	59,000	.024333	.001333	.....	.....	
15,000	60,000	.026167	.001834	.....	.....	
15,500	62,000	.029667	.003500	.....	.....	
16,000	64,000	.033000	.003333	.....	.....	
16,500	66,000	.037167	.004167	.....	.....	
17,000	68,000	.041800	.004633	.....	.....	
17,500	70,000	.047667	.005867	.....	.....	
18,000	72,000	.054167	.006500	.....	.....	
18,500	74,000	.062500	.008333	.....	.....	
19,000	76,000	.074833	.012333	.....	.....	
19,500	78,000	.0967	.021867	.....	.....	
19,900	79,840	.1400	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,840
Elastic limit per square inch of original section	do..	40,000
Elongation per inch after rupture	inch..	0.2800
Elongation per inch under strain at elastic limit	do...	.001333
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		62.7
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.43*, ″.16, ″.10

No. 2097.

Marks, $\frac{S\ T_2}{M\ T_1\ M}$
Diameter, $\frac{1}{2}$".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	
10,250	41,000	.001267	.000034	.....	.....	
10,500	42,000	.001333	.000066	.....	.....	
10,750	43,000	.001400	.000067	.....	.....	
11,000	44,000	.001467	.000067	.....	.....	Elastic limit.
11,250	45,000	.001700	.000233	.....	.....	
11,500	46,000	.004133	.002433	.....	.....	
11,750	47,000	.005600	.001467	.....	.....	
12,000	48,000	.006533	.000933	.....	.....	
12,250	49,000	.007400	.000867	.....	.....	
12,500	50,000	.008267	.000867	.....	.....	
12,750	51,000	.009167	.000900	.....	.....	
13,000	52,000	.010333	.001166	.....	.....	
13,250	53,000	.011267	.000934	.....	.....	
13,500	54,000	.012167	.000900	.....	.....	
13,750	55,000	.013000	.000833	.....	.....	
14,000	56,000	.014233	.001233	.....	.....	
14,250	57,000	.015000	.000767	.....	.....	
14,500	58,000	.016200	.001200	.....	.....	
14,750	59,000	.017133	.000933	.....	.....	
15,000	60,000	.018533	.001400	.....	.....	
15,500	62,000	.020767	.002234	.....	.....	
16,000	64,000	.024000	.003233	.....	.....	
16,500	66,000	.026633	.002633	.....	.....	
17,000	68,000	.030000	.003367	.....	.....	
17,500	70,000	.033333	.003333	.....	.....	
18,000	72,000	.037333	.004000	.....	.....	
18,500	74,000	.042333	.005000	.....	.....	
19,000	76,000	.048333	.006000	.....	.....	
19,500	78,000	.055667	.007334	.....	.....	
20,000	80,000	.066667	.011000	.....	.....	
20,500	82,000	.0800	.013333	.....	.....	
21,000	84,000	.1067	.0267	.....	.....	
21,300	85,200	.1667	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	85,200
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rapture, per centum of original section		47.2
Position of rupture		".2 from middle of stem
Character of broken surface		silky; traces of granulation
Elongation of inch sections		".17, ".44*, ".16

No. 2134.

Marks, $\frac{8\ T_{20}}{B\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001133	0.	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001267	.0 0034	0.	.....	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	
11,000	44,000	.001433	.000033	.....	.....	
11,250	45,000	.001433	0.	0.	.....	
11,500	46,000	.001467	.000034	.....	.....	Elastic limit.
11,750	47,000	.005667	.004200	.....	.....	
12,000	48,000	.011600	.005933	.....	.....	
12,250	49,000	.012333	.000733	.....	.....	
12,500	50,000	.013400	.001067	.....	.....	
12,750	51,000	.014533	.001133	.....	.....	
13,000	52,000	.016167	.001634	.....	.....	
13,250	53,000	.017667	.001500	.....	.....	
13,500	54,000	.019033	.001366	.....	.....	
13,750	55,000	.020667	.001634	.....	.....	
14,000	56,000	.022033	.001366	.....	.....	
14,250	57,000	.023733	.001700	.....	.....	
14,500	58,000	.025500	.001767	.....	.....	
14,750	59,000	.027500	.002000	.....	.....	
15,000	60,000	.029500	.002000	.....	.....	
15,500	62,000	.033733	.004233	.....	.....	
16,000	64,000	.038667	.004934	.....	.....	
16,500	66,000	.044500	.005833	.....	.....	
17,000	68,000	.052333	.007833	.....	.....	
17,500	70,000	.061667	.009334	.....	.....	
18,000	72,000	.075500	.013833	.....	.....	
18,500	74,000	.0967	.0212	.....	.....	
18,870	75,480	.1633	.0666	.....	.....	Tensile strength.

General summary.

Specific gravity	7.[illegible]
Hardness	12.[illegible]
Tensile strength per square inch of original section ..... pounds	75,[illegible]
Elastic limit per square inch of original section ..... do	46,[illegible]
Elongation per inch after rupture ..... inch	0.2700
Elongation per inch under strain at elastic limit ..... do	.001467
Reduction in diameter at point of rupture ..... do	.194
Reduction in area after rupture, per centum of original section	57.0
Position of rupture	1″.1 from neck
Character of broken surface ..... silky; opened cracks in surface of stem	
Elongation of inch sections	″.45″, ″.23, ″.13

No. 2135.

Marks, $\frac{S\ T_2}{B\ T_2\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	
10,000	40,000	.001367	.000067	.000033	.000033	
10,250	41,000	.001433	.000066	.....	.....	Elastic limit.
10,500	42,000	.013833	.012400	.....	.....	
10,750	43,000	.014833	.001000	.....	.....	
11,000	44,000	.015033	.001200	.....	.....	
11,250	45,000	.015900	.000867	.....	.....	
11,500	46,000	.018167	.001267	.....	.....	
11,750	47,000	.019533	.001366	.....	.....	
12,000	48,000	.020900	.001367	.....	.....	
12,250	49,000	.022167	.001267	.....	.....	
12,500	50,000	.024000	.001833	.....	.....	
12,750	51,000	.025100	.001100	.....	.....	
13,000	52,000	.026700	.001600	.....	.....	
13,250	53,000	.028167	.001467	.....	.....	
13,500	54,000	.030233	.002066	.....	.....	
13,750	55,000	.031867	.001634	.....	.....	
14,000	56,000	.034000	.002133	.....	.....	
14,250	57,000	.036000	.002000	.....	.....	
14,500	58,000	.038333	.002333	.....	.....	
14,750	59,000	.040400	.002067	.....	.....	
15,000	60,000	.044500	.004100	.....	.....	
15,500	62,000	.050667	.006167	.....	.....	
16,000	64,000	.056667	.006000	.....	.....	
16,500	66,000	.0667	.010033	.....	.....	
17,000	68,000	.0800	.0133	.....	.....	
17,500	70,000	.1000	.0200	.....	.....	
18,000	72,000	.1200	.0200	.....	.....	
18,350	73,400	.1833	.0633	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,400
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		1″.1 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		″.37, ″.24, ″.17

No. 2136.

Marks, $\frac{8\,T_{30}}{B\,T_3\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	
10,000	40,000	.001367	.000067	.000033	.000033	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001433	.000033	.....	.....	Elastic limit.
10,750	43,000	.009267	.007834	.....	.....	
11,000	44,000	.009900	.000633	.....	.....	
11,250	45,000	.010800	.000900	.....	.....	
11,500	46,000	.012467	.001667	.....	.....	
11,750	47,000	.013167	.000700	.....	.....	
12,000	48,000	.014567	.001400	.....	.....	
12,250	49,000	.015500	.000933	.....	.....	
12,500	50,000	.016833	.001333	.....	.....	
12,750	51,000	.018333	.001500	.....	.....	
13,000	52,000	.019833	.001500	.....	.....	
13,250	53,000	.021333	.001500	.....	.....	
13,500	54,000	.022833	.001500	.....	.....	
13,750	55,000	.024333	.001500	.....	.....	
14,000	56,000	.026167	.001834	.....	.....	
14,250	57,000	.028167	.002000	.....	.....	
14,500	58,000	.030000	.001833	.....	.....	
14,750	59,000	.032000	.002000	.....	.....	
15,000	60,000	.034000	.002000	.....	.....	
15,500	62,000	.038667	.004667	.....	.....	
16,000	64,000	.044500	.005833	.....	.....	
16,500	66,000	.052167	.007667	.....	.....	
17,000	68,000	.060667	.008500	.....	.....	
17,500	70,000	.0700	.009333	.....	.....	
18,000	72,000	.0900	.0200	.....	.....	
18,500	74,000	.1233	.0333	.....	.....	
18,680	74,720	.1733	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,720
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2067
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		¾ inch from neck
Character of broken surface	silky; opened cracks in surface of stem	
Elongation of inch sections		″.41*, ″.18, ″.15

No. 2137.

Marks, $\frac{S\ T_2}{M\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001367	.000100	.000033	.000033	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001433	.000033	.....	.....	
10,750	43,000	.001467	.000034	.....	.....	
11,000	44,000	.001467	0.	.....	.....	
11,250	45,000	.001500	.000033	.....	.....	Elastic limit.
11,500	46,000	.010433	.008933	.....	.....	
11,750	47,000	.011000	.000567	.....	.....	
12,000	48,000	.012067	.001067	.....	.....	
12,250	49,000	.012767	.000700	.....	.....	
12,500	50,000	.014133	.001366	.....	.....	
12,750	51,000	.015500	.001367	.....	.....	
13,000	52,000	.017000	.001500	.....	.....	
12,250	53,000	.018333	.001333	.....	.....	
13,500	54,000	.020000	.001667	.....	.....	
13,750	55,000	.021000	.001000	.....	.....	
14,000	56,000	.022333	.001333	.....	.....	
14,250	57,000	.024000	.001667	.....	.....	
14,500	58,000	.025833	.001833	.....	.....	
14,750	59,000	.027333	.001500	.....	.....	
15,000	60,000	.029500	.002167	.....	.....	
15,500	62,000	.033733	.004233	.....	.....	
16,000	64,000	.038167	.004434	.....	.....	
16,500	66,000	.043567	.005400	.....	.....	
17,000	68,000	.050000	.006433	.....	.....	
17,500	70,000	.059333	.009333	.....	.....	
18,000	72,000	.071667	.012334	.....	.....	
18,500	74,000	.0933	.021633	.....	.....	
19,000	76,000	.1333	.0400	.....	.....	
19,040	76,160	.1533	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,160
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″.1 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		″.87*, ″.20 ″.13

No. 2138.

Marks, $\frac{8\ T_{20}}{M\ T_2\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	.000033	.000033	
2,500	10,000	.000367	.000200	.000033	0.	
3,750	15,000	.000567	.000200	.000033	0.	
5,000	20,000	.000733	.000166	.000033	0.	
6,250	25,000	.000900	.000167	.000067	.000034	
7,500	30,000	.001067	.000167	.000067	0.	
8,750	35,000	.001233	.000166	.000067	0.	
9,000	36,000	.001300	.000067	.....	.....	
9,250	37,000	.001367	.000067	.....	.....	
9,500	38,000	.001400	.000033	.....	.....	
9,750	39,000	.001433	.000033	.....	.....	
10,000	40,000	.001467	.000034	.000067	0.	
10,250	41,000	.001433	.000034	.....	.....	Elastic limit.
10,500	42,000	.005733	.004300	.....	.....	
10,750	43,000	.008500	.002767	.....	.....	
11,000	44,000	.009333	.000833	.....	.....	
11,250	45,000	.010667	.001334	.....	.....	
11,500	46,000	.011700	.001033	.....	.....	
11,750	47,000	.012600	.000900	.....	.....	
12,000	48,000	.014000	.001400	.....	.....	
12,250	49,000	.014967	.000967	.....	.....	
12,500	50,000	.016667	.001700	.....	.....	
12,750	51,000	.017833	.001166	.....	.....	
13,000	52,000	.019333	.001500	.....	.....	
13,250	53,000	.020400	.001067	.....	.....	
13,500	54,000	.022067	.001667	.....	.....	
13,750	55,000	.023500	.001433	.....	.....	
14,000	56,000	.025167	.001667	.....	.....	
14,250	57,000	.026667	.001500	.....	.....	
14,500	58,000	.028733	.002066	.....	.....	
14,750	59,000	.030400	.001667	.....	.....	
15,000	60,000	.032667	.002267	.....	.....	
15,500	62,000	.037500	.004833	.....	.....	
16,000	64,000	.042333	.004833	.....	.....	
16,500	66,000	.048667	.006334	.....	.....	
17,000	68,000	.056667	.008000	.....	.....	
17,500	70,000	.068333	.011666	.....	.....	
18,000	72,000	.0867	.018367	.....	.....	
18,500	74,000	.1033	.0166	.....	.....	
18,870	75,480	.1467	.0434	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,480
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.1667
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		½ inch from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.23°, ″.15, ″.12

No. 2139.

Marks, $^{8}_{M}\,T_{M}^{\phi}$
Diameter, $''.564$.
Sectional area, .25 square inch.

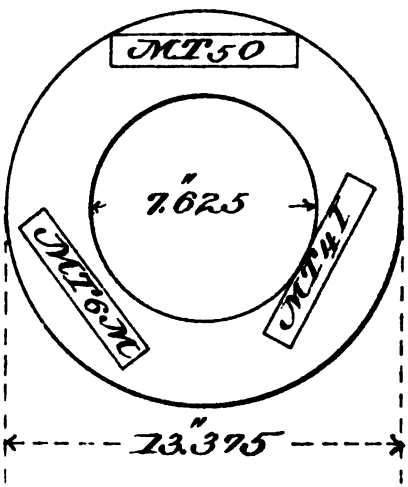
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001133	0.	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001267	.000034	0.	.....	
10,250	41,000	.001367	.000100	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	Elastic limit.
10,750	43,000	.004000	.002600	.....	.....	
11,000	44,000	.007667	.003667	.....	.....	
11,250	45,000	.008667	.001000	.....	.....	
11,500	46,000	.009867	.001200	.....	.....	
11,750	47,000	.010700	.000833	.....	.....	
12,000	48,000	.011833	.001133	.....	.....	
12,250	49,000	.013000	.001167	.....	.....	
12,500	50,000	.014133	.001133	.....	.....	
12,750	51,000	.015433	.001300	.....	.....	
13,000	52,000	.016667	.001234	.....	.....	
13,250	53,000	.017833	.001166	.....	.....	
13,500	54,000	.019200	.001367	.....	.....	
13,750	55,000	.020400	.001200	.....	.....	
14,000	56,000	.021933	.001533	.....	.....	
14,250	57,000	.023333	.001400	.....	.....	
14,500	58,000	.025133	.001800	.....	.....	
14,750	59,000	.026667	.001534	.....	.....	
15,000	60,000	.028667	.002000	.....	.....	
15,500	62,000	.032100	.003433	.....	.....	
16,000	64,000	.037000	.004900	.....	.....	
16,500	66,000	.042333	.005333	.....	.....	
17,000	68,000	.048667	.006334	.....	.....	
17,500	70,000	.056667	.008000	.....	.....	
18,000	72,000	.0667	.010033	.....	.....	
18,500	74,000	.0867	.0200	.....	.....	
19,000	76,000	.1100	.0233	.....	.....	
19,220	76,880	.1467	.0367	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,880
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.1933
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.074
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		".22 from neck
Character of broken surface		granular; dull spot at circumference
Fractured		¼ inch from minimum diameter
Elongation of inch sections		".31", ".14, ".13

Tube No. 39 8" converted Rifle

Additional specimens



H Ex 31 492

No. 2484.

Marks, $\frac{8\,T_{33}}{M\,T_4 I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001300	.000067	.....	.....	
10,250	41,000	.001367	.000067	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	Elastic limit.
11,000	44,000	.001600	.000167	.....	.....	
11,250	45,000	.004733	.003133	.....	.....	
11,500	46,000	.009533	.004800	.....	.....	
11,750	47,000	.010233	.000700	.....	.....	
12,000	48,000	.011533	.001300	.....	.....	
12,250	49,000	.012333	.000800	.....	.....	
12,500	50,000	.013833	.001500	.....	.....	
13,000	52,000	.016700	.002867	.....	.....	
13,500	54,000	.019667	.002967	.....	.....	
14,000	56,000	.022700	.003033	.....	.....	
14,500	58,000	.025833	.003133	.....	.....	
15,000	60,000	.029667	.003834	.....	.....	
15,500	62,000	.033900	.004233	.....	.....	
16,000	64,000	.039167	.005267	.....	.....	
16,500	66,000	.045000	.005833	.....	.....	
17,000	68,000	.051667	.006667	.....	.....	
17,500	70,000	.060667	.009000	.....	.....	
18,000	72,000	.0733	.012633	.....	.....	
18,500	74,000	.0933	.0200	.....	.....	
19,000	76,000	.1433	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76.000
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2433
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1″.15 from neck
Character of broken surface		silky
Elongation of inch sections		″.36*, ″.24 ″.13

No. 2485.

Marks, $\frac{8\,T_{10}}{M\,T_5\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000733	.000133	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001033	.000133	.....	.....	
9,000	36,000	.001067	.000034	.....	.....	
9,250	37,000	.001100	.000033	.....	.....	
9,500	38,000	.001133	.000033	.....	.....	
9,750	39,000	.001133	0.	.....	.....	
10,000	40,000	.001167	.000034	.....	.....	
10,250	41,000	.001200	.000033	.....	.....	
10,500	42,000	.001233	.000033	.....	.....	
10,750	43,000	.001300	.000067	.....	.....	
11,000	44,000	.001400	.000100	.....	.....	Elastic limit.
11,250	45,000	.009367	.007967	.....	.....	
11,500	46,000	.010000	.000633	.....	.....	
11,750	47,000	.010733	.000733	.....	.....	
12,000	48,000	.011900	.001167	.....	.....	
12,250	49,000	.012833	.000933	.....	.....	
12,500	50,000	.014500	.001667	.....	.....	
13,000	52,000	.017000	.002500	.....	.....	
13,500	54,000	.019667	.002667	.....	.....	
14,000	56,000	.022667	.003000	.....	.....	
14,500	58,000	.025333	.002666	.....	.....	
15,000	60,000	.028833	.003500	.....	.....	
15,500	62,000	.032333	.003500	.....	.....	
16,000	64,000	.037167	.004834	.....	.....	
16,500	66,000	.042000	.004833	.....	.....	
17,000	68,000	.047833	.005833	.....	.....	
17,500	70,000	.055000	.007167	.....	.....	
18,000	72,000	.0667	.0117	.....	.....	
18,500	74,000	.0767	.0100	.....	.....	
19,000	76,000	.1033	.0266	.....	.....	
19,350	77,400	.1433	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,400
Elastic limit, per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		″.75 from neck
Character of broken surface		silky, with slight granulation
Elongation of inch sections		″.33″, ″.15, ″.12

No. 2486.

Marks, $\frac{S\ T_2}{M\ T_1\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001100	.000100	.....	.....	
9,000	36,000	.001167	.000067	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001333	.000066	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001433	.000066	.....	.....	Elastic limit.
10,750	43,000	.009500	.008067	.....	.....	
11,000	44,000	.010500	.001000	.....	.....	
11,250	45,000	.011333	.000833	.....	.....	
11,500	46,000	.012500	.001167	.....	.....	
11,750	47,000	.013467	.000967	.....	.....	
12,000	48,000	.014833	.001366	.....	.....	
12,250	49,000	.015800	.000967	.....	.....	
12,500	50,000	.017167	.001367	.....	.....	
13,000	52,000	.020167	.003000	.....	.....	
13,500	54,000	.023167	.003000	.....	.....	
14,000	56,000	.026333	.003166	.....	.....	
14,500	58,000	.029667	.003334	.....	.....	
15,000	60,000	.033833	.004166	.....	.....	
15,500	62,000	.038500	.004667	.....	.....	
16,000	64,000	.043833	.005333	.....	.....	
16,500	66,000	.050000	.006167	.....	.....	
17,000	68,000	.057667	.007667	.....	.....	
17,500	70,000	.0700	.012333	.....	.....	
18,000	72,000	.0833	.0133	.....	.....	
18,500	74,000	.1033	.0200	.....	.....	
18,940	75,760	.1700	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,760
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2233
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.094
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		1″.60 from neck
Character of broken surface granular; dull spot at circumference; opened cracks in surface of stem		
Elongation of inch sections		″.16″, .32*, ″.19

No. 1129.

Marks, $\frac{8\ T_{\infty}}{B\ T_{1}\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000300	.000133	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	.000033	.000033	
6,250	25,000	.000800	.000167	.000033	0.	
7,500	30,000	.000967	.000167	.000067	.000034	
8,750	35,000	.001133	.000166	.000100	.000033	
10,000	40,000	.001367	.000234	.000100	0.	Elastic limit.
10,250	41,000	.002333	.000966	.....	.....	
10,500	42,000	.007167	.004834	.....	.....	
10,750	43,000	.008000	.000833	.....	.....	
11,000	44,000	.009200	.001200	.....	.....	
11,250	45,000	.010233	.001033	.008467	.008367	
11,500	46,000	.011600	.001367	.....	.....	
11,750	47,000	.012733	.001133	.....	.....	
12,000	48,000	.013733	.001000	.....	.....	
12,250	49,000	.014933	.001200	.....	.....	
12,500	50,000	.016467	.001534	.014567	.006100	
12,750	51,000	.017067	.000600	.....	.....	
13,000	52,000	.018767	.001700	.....	.....	
13,250	53,000	.020400	.001633	.....	.....	
13,500	54,000	.022067	.001667	.....	.....	
13,750	55,000	.023833	.001766	.....	.....	
14,000	56,000	.026000	.002167	.....	.....	
14,250	57,000	.028000	.002000	.....	.....	
14,500	58,000	.030500	.002500	.....	.....	
14,750	59,000	.032167	.001667	.....	.....	
15,000	60,000	.034600	.002433	.....	.....	
15,500	62,000	.040000	.005400	.....	.....	
16,000	64,000	.045667	.005667	.....	.....	
16,500	66,000	.053333	.007666	.....	.....	
17,000	68,000	.063333	.010000	.....	.....	
17,500	70,000	.079333	.016000	.....	.....	
18,000	72,000	.1233	.043967	.....	.....	
18,180	72,720	.1533 .1967	.0300 .0434	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8586
Hardness	11.92
Tensile strength per square inch of original section ... pounds	72,720
Elastic limit per square inch of original section ... do	40,000
Elongation per inch after rupture ... inch	0.2067
Elongation per inch under strain at elastic limit ... do	.001367
Reduction in diameter at point of rupture ... do	.154
Reduction in area after rupture, per centum of original section	47.2
Position of rupture	⅜ inch from neck
Character of broken surface	silky
Elongation of inch sections	″.44°, ″.20, ″.16

No. 1130.

Marks, $\frac{S\ T_{40}}{B\ T_2 O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000533	.000200	0.	.....	
5,000	20,000	.000700	.000167	.000033	.000033	
6,250	25,000	.000867	.000167	.000033	0.	
7,500	30,000	.001033	.000166	.000067	.000034	
8,750	35,000	.001167	.000134	.000067	0.	
9,500	38,000	.001300	.000133	.....	.....	
9,750	39,000	.001367	.000067	.....	.....	
10,000	40,000	.001433	.000066	.000167	.000100	Elastic limit.
10,250	41,000	.005767	.004334	.....	.....	
10,500	42,000	.008033	.002266	.....	.....	
10,750	43,000	.008500	.000467	.....	.....	
11,000	44,000	.009433	.000933	.....	.....	
11,250	45,000	.010700	.001267	.009033	.008866	
11,500	46,000	.012033	.001333	.....	.....	
11,750	47,000	.012533	.000500	.....	.....	
12,000	48,000	.014667	.002134	.....	.....	
12,250	49,000	.015600	.000933	.....	.....	
12,500	50,000	.017400	.001800	.015333	.006300	
12,750	51,000	.017700	.000300	.....	.....	
13,000	52,000	.018400	.000700	.....	.....	
13,250	53,000	.020167	.001767	.....	.....	
13,500	54,000	.022167	.002000	.....	.....	
13,750	55,000	.023600	.001433	.....	.....	
14,000	56,000	.025500	.001900	.....	.....	
14,250	57,000	.027167	.001667	.....	.....	
14,500	58,000	.029167	.002000	.....	.....	
14,750	59,000	.031100	.001933	.....	.....	
15,000	60,000	.033433	.002333	.....	.....	
15,500	62,000	.037667	.004234	.....	.....	
16,000	64,000	.043333	.005666	.....	.....	
16,500	66,000	.050000	.006667	.....	.....	
17,000	68,000	.058500	.008500	.....	.....	
17,500	70,000	.068933	.010433	.....	.....	
18,000	72,000	.084000	.015067	.....	.....	
18,500	74,000	.1133	.0293	.....	.....	
18,740	74,960	.1667	.0534	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,960
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2533
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		".1 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".21, ".40*, ".15

No. 1131.

Marks, $\frac{8\ Te}{B\ T_2\ M}$
Diameter, $''.564$.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000200	.000200	.000033	.000033	
2,500	10,000	.000433	.000233	.000033	0.	
3,750	15,000	.000600	.000167	.000067	.000034	
5,000	20,000	.000733	.000133	.000067	0.	
6,250	25,000	.000900	.000167	.000067	0.	
7,500	30,000	.001067	.000167	.000100	.000033	
8,750	35,000	.001233	.000166	.000133	.000033	Elastic limit.
9,000	36,000	.001367	.000134	.....	.....	
9,250	37,000	.001913	.000546	.....	.....	
9,500	38,000	.008267	.006334	.....	.....	
9,750	39,000	.009433	.001166	.....	.....	
10,000	40,000	.010400	.000967	.008900	.008767	
10,250	41,000	.011267	.000867	.....	.....	
10,500	42,000	.012267	.001000	.....	.....	
10,750	43,000	.013500	.001233	.....	.....	
11,000	44,000	.015133	.001733	.....	.....	
11,250	45,000	.016500	.001367	.....	.....	
11,500	46,000	.017333	.000833	.....	.....	
11,750	47,000	.018967	.001634	.....	.....	
12,000	48,000	.020000	.001033	.....	.....	
12,250	49,000	.021667	.001667	.....	.....	
12,500	50,000	.023400	.001733	.....	.....	
12,750	51,000	.025333	.001933	.....	.....	
13,000	52,000	.027000	.001667	.....	.....	
13,250	53,000	.028667	.001667	.....	.....	
13,500	54,000	.030667	.002000	.....	.....	
13,750	55,000	.032500	.001833	.....	.....	
14,000	56,000	.035067	.002567	.....	.....	
14,250	57,000	.037067	.002000	.....	.....	
14,500	58,000	.039433	.002366	.....	.....	
14,750	59,000	.042167	.002734	.....	.....	
15,000	60,000	.045833	.003666	.....	.....	
15,500	62,000	.052333	.006500	.....	.....	
16,000	64,000	.060667	.008334	.....	.....	
16,500	66,000	.071333	.010666	.....	.....	
17,000	68,000	.0933	.021967	.....	.....	
17,500	70,000	.1133	.0200	.....	.....	
17,920	71,680	.1900	.0767	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	71,680
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2533
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".20, ".34", ".16

No. 1132.

Marks, $\frac{S\ Te}{M\ T,\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	.....	.....	
2,500	10,000	.000367	.000200	.....	.....	
3,750	15,000	.000533	.000166	.....	.....	
5,000	20,000	.000700	.000167	.....	.....	
6,250	25,000	.000867	.000167	.....	.....	
7,500	30,000	.001033	.000166	.....	.....	
8,500	34,000	.001067	.000034	.....	.....	Elastic limit.
8,750	35,000	.001300	.000233	.000200	.000200	
9,000	36,000	.002900	.001600	.....	.....	
9,250	37,000	.005333	.002433	.....	.....	
9,500	38,000	.007667	.002334	.....	.....	
9,750	39,000	.008667	.001000	.....	.....	
10,000	40,000	.010067	.001400	.008500	.008300	
10,250	41,000	.010400	.000333	.....	.....	
10,500	42,000	.011600	.001200	.....	.....	
10,750	43,000	.012733	.001133	.....	.....	
11,000	44,000	.013933	.001200	.....	.....	
11,250	45,000	.015267	.001334	.....	.....	
11,500	46,000	.016733	.001466	.....	.....	
11,750	47,000	.018033	.001300	.....	.....	
12,000	48,000	.019333	.001300	.....	.....	
12,250	49,000	.020400	.001067	.....	.....	
12,500	50,000	.022067	.001667	.....	.....	
12,750	51,000	.023733	.001666	.....	.....	
13,000	52,000	.025333	.001600	.....	.....	
13,250	53,000	.027400	.002067	.....	.....	
13,500	54,000	.029000	.001600	.....	.....	
13,750	55,000	.031067	.002067	.....	.....	
14,000	56,000	.033333	.002266	.....	.....	
14,250	57,000	.035933	.002600	.....	.....	
14,500	58,000	.037833	.001900	.....	.....	
14,750	59,000	.040500	.002667	.....	.....	
15,000	60,000	.043333	.002833	.....	.....	
15,500	62,000	.049167	.005834	.....	.....	
16,000	64,000	.056333	.007166	.....	.....	
16,500	66,000	.066000	.009667	.....	.....	
17,000	68,000	.080000	.014000	.....	.....	
17,500	70,000	.1000	.0200	.....	.....	
18,000	72,000	.1333	.0333	.....	.....	
18,200	72,800	.1933	.0600	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8528
Hardness		11.59
Tensile strength per square inch of original section	pounds..	72,800
Elastic limit per square inch of original section	do...	34,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do...	.001067
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture	§ inch from neck	
Character of broken surface		silky
Elongation of inch sections		″.35*, ″.20, ″.17

No. 1133.

Marks, $\frac{8\,T_{40}}{M\,T_2\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000200	.000200	.000033	.000033	
2,500	10,000	.000367	.000167	.000033	0.	
3,750	15,000	.000533	.000166	.000067	.000034	
5,000	20,000	.000700	.000167	.000067	0.	
6,250	25,000	.000867	.000167	.000067	0.	
7,500	30,000	.001033	.000166	.000100	.000033	
8,750	35,000	.001200	.000167	.000100	0.	
9,000	36,000	.001233	.000033	.....	.....	Elastic limit.
9,250	37,000	.001400	.000167	.....	.....	
9,500	38,000	.007067	.005667	.....	.....	
9,750	39,000	.009333	.002266	.....	.....	
10,000	40,000	.010400	.001067	.008900	.008800	
10,250	41,000	.010900	.000500	.....	.....	
10,500	42,000	.011500	.000600	.....	.....	
10,750	43,000	.012367	.000867	.....	.....	
11,000	44,000	.013567	.001200	.....	.....	
11,250	45,000	.014833	.001266	.....	.....	
11,500	46,000	.016333	.001500	.....	.....	
11,750	47,000	.017333	.001000	.....	.....	
12,000	48,000	.018333	.001000	.....	.....	
12,250	49,000	.019867	.001534	.....	.....	
12,500	50,000	.021167	.001300	.....	.....	
12,750	51,000	.022000	.000833	.....	.....	
13,000	52,000	.023267	.001267	.....	.....	
13,250	53,000	.024667	.001400	.....	.....	
13,500	54,000	.026467	.001800	.....	.....	
13,750	55,000	.028133	.001666	.....	.....	
14,000	56,000	.030100	.001967	.....	.....	
14,250	57,000	.031700	.001600	.....	.....	
14,500	58,000	.033333	.001633	.....	.....	
14,750	59,000	.035100	.001767	.....	.....	
15,000	60,000	.037400	.002300	.....	.....	
15,500	62,000	.042400	.005000	.....	.....	
16,000	64,000	.047333	.004933	.....	.....	
16,500	66,000	.053400	.006067	.....	.....	
17,000	68,000	.060167	.006767	.....	.....	
17,500	70,000	.071333	.011166	.....	.....	
18,000	72,000	.0867	.015367	.....	.....	
18,500	74,000	.1033	.0166	.....	.....	
19,000	76,000	.1333	.0300	.....	.....	
19,280	77,120	.1967	.0634	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section ..... pounds.. 77,123
Elastic limit per square inch of original section ..... do... 36,000
Elongation per inch after rupture ..... inch.. 0.2300
Elongation per inch under strain at elastic limit ..... do... .001237
Reduction in diameter at point of rupture ..... do... .074
Reduction in area after rupture, per centum of original section 24.6
Position of rupture ..... ″.40 from middle of stem
Character of broken surface, granular; flaky spot at circumference; cracks developed along surface of stem.
Elongation of inch sections ..... ″.21, ″.31, ″.19

No. 1134.

Marks, $\frac{8\ T_{40}}{M\ T_2\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	.000033	.000033	
8,750	35,000	.001133	.000166	.000033	0.	Elastic limit.
9,000	36,000	.002733	.001600	.....	.....	
9,250	37,000	.005833	.003100	.....	.....	
9,500	38,000	.008400	.002567	.....	.....	
9,750	39,000	.009567	.001167	.....	.....	
10,000	40,000	.010667	.001100	.009233	.009200	
10,250	41,000	.011000	.000333	.....	.....	
10,500	42,000	.011600	.000600	.....	.....	
10,750	43,000	.012467	.000867	.....	.....	
11,000	44,000	.013767	.001300	.....	.....	
11,250	45,000	.015167	.001400	.....	.....	
11,500	46,000	.016567	.001400	.....	.....	
11,750	47,000	.017367	.000800	.....	.....	
12,000	48,000	.018700	.001333	.....	.....	
12,250	49,000	.019800	.001100	.....	.....	
12,500	50,000	.021400	.001600	.....	.....	
12,750	51,000	.022667	.001267	.....	.....	
13,000	52,000	.024100	.001433	.....	.....	
13,250	53,000	.025433	.001333	.....	.....	
13,500	54,000	.027167	.001734	.....	.....	
13,750	55,000	.028833	.001666	.....	.....	
14,000	56,000	.030800	.001967	.....	.....	
14,250	57,000	.032467	.001667	.....	.....	
14,500	58,000	.034533	.002066	.....	.....	
14,750	59,000	.036167	.001634	.....	.....	
15,000	60,000	.038167	.002000	.....	.....	
15,500	62,000	.042667	.004500	.....	.....	
16,000	64,000	.045000	.002333	.....	.....	
16,500	66,000	.054833	.009833	.....	.....	
17,000	68,000	.062333	.007500	.....	.....	
17,500	70,000	.072667	.010334	.....	.....	
18,000	72,000	.085667	.013000	.....	.....	
18,500	74,000	.1167	.031033	.....	.....	
19,000	76,000	.1633	.0466	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,000
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0 2367
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.38*, ″.21, ″.12

No. 2098.

Marks, $\frac{8\ T_{41}}{B\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001367	.000234	.000033	.000033	Elastic limit.
10,250	41,000	.001567	.000200	.....	.....	
10,500	42,000	.002500	.000933	.....	.....	
10,750	43,000	.005167	.002667	.....	.....	
11,000	44,000	.006167	.001000	.....	.....	
11,250	45,000	.007500	.001333	.....	.....	
11,500	46,000	.008667	.001167	.....	.....	
11,750	47,000	.010233	.001556	.....	.....	
12,000	48,000	.011500	.001267	.....	.....	
12,250	49,000	.012667	.001167	.....	.....	
12,500	50,000	.013733	.001066	.....	.....	
12,750	51,000	.014667	.000934	.....	.....	
13,000	52,000	.015767	.001100	.....	.....	
13,250	53,000	.017167	.001400	.....	.....	
13,500	54,000	.018567	.001400	.....	.....	
13,750	55,000	.019867	.001300	.....	.....	
14,000	56,000	.021667	.001800	.....	.....	
14,250	57,000	.023333	.001666	.....	.....	
14,500	58,000	.024967	.001634	.....	.....	
14,750	59,000	.026667	.001700	.....	.....	
15,000	60,000	.028667	.002000	.....	.....	
15,500	62,000	.033167	.004500	.....	.....	
16,000	64,000	.036900	.003733	.....	.....	
16,500	66,000	.042000	.005100	.....	.....	
17,000	68,000	.048667	.006667	.....	.....	
17,500	70,000	.056167	.007500	.....	.....	
18,000	72,000	.068333	.012166	.....	.....	
18,500	74,000	.0900	.021667	.....	.....	
19,000	76,000	.1300	.0400	.....	.....	
19,190	76,760	.1800	.0500	.....	.....	Tensile strength.

General summary.

Specific gravity	7.[illegible]
Hardness	13.[illegible]
Tensile strength per square inch of original section ..... pounds	[illegible]
Elastic limit per square inch of original section ..... do	[illegible]
Elongation per inch after rupture ..... inch	[illegible]
Elongation per inch under strain at elastic limit ..... do	[illegible]
Reduction in diameter at point of rupture ..... do	[illegible]
Reduction in area after rupture, per centum of original section	[illegible]
Position of rupture	″.60 from middle of stem
Character of broken surface	silky
Elongation of inch sections	″.36″, ″.37″, ″.17

No. 2099.

Marks, $\frac{S\ T_4}{B\ T_7\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000600	.000200	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000900	.000133	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	
10,250	41,000	.001267	.000034	.....	.....	
10,500	42,000	.001300	.000033	.....	.....	
10,750	43,000	.001367	.000067	.....	.....	
11,000	44,000	.001433	.000066	.....	.....	Elastic limit.
11,250	45,000	.001600	.000167	.....	.....	
11,500	46,000	.003567	.001967	.....	.....	
11,750	47,000	.004133	.000566	.....	.....	
12,000	48,000	.005300	.001167	.....	.....	
12,250	49,000	.006333	.001033	.....	.....	
12,500	50,000	.007700	.001367	.....	.....	
12,750	51,000	.008667	.000967	.....	.....	
13,000	52,000	.009767	.001100	.....	.....	
13,250	53,000	.010633	.000866	.....	.....	
13,500	54,000	.011767	.001134	.....	.....	
13,750	55,000	.013033	.001266	.....	.....	
14,000	56,000	.014200	.001167	.....	.....	
14,250	57,000	.015100	.000900	.....	.....	
14,500	58,000	.017000	.001900	.....	.....	
14,750	59,000	.018333	.001333	.....	.....	
15,000	60,000	.019667	.001334	.....	.....	
15,500	62,000	.022333	.002666	.....	.....	
16,000	64,000	.025133	.002800	.....	.....	
16,500	66,000	.029000	.003867	.....	.....	
17,000	68,000	.033000	.004000	.....	.....	
17,500	70,000	.037067	.004067	.....	.....	
18,000	72,000	.041500	.004433	.....	.....	
18,500	74,000	.047333	.005833	.....	.....	
19,000	76,000	.055167	.007834	.....	.....	
19,500	78,000	.064000	.008833	.....	.....	
20,000	80,000	.079000	.015000	.....	.....	
20,500	82,000	.1067	.0277	.....	.....	
20,600	82,400	.1500	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,400
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.1667
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.074
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		1 inch from neck
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		".23", ".16, ".12

No. 2100.

Marks, $^{8\ T_{41}}_{B\ T_3\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000200	.000100	0.	.....	
3,750	15,000	.000367	.000167	0.	.....	
5,000	20,000	.000500	.000133	0.	.....	
6,250	25,000	.000667	.000167	0.	.....	
7,500	30,000	.000833	.000166	0.	.....	
8,750	35,000	.001033	.000200	0.	.....	
10,000	40,000	.001300	.000267	.000100	.000100	
10,250	41,000	.001367	.000067	.....	.....	Elastic limit.
10,500	42,000	.002167	.000800	.....	.....	
10,750	43,000	.003267	.001100	.....	.....	
11,000	44,000	.004767	.001500	.....	.....	
11,250	45,000	.006000	.001233	.....	.....	
11,500	46,000	.007833	.001333	.....	.....	
11,750	47,000	.008867	.001034	.....	.....	
12,000	48,000	.009533	.001166	.....	.....	
12,250	49,000	.010400	.000867	.....	.....	
12,500	50,000	.011433	.001033	.....	.....	
12,750	51,000	.012500	.001067	.....	.....	
13,000	52,000	.013567	.001067	.....	.....	
13,250	53,000	.014700	.001133	.....	.....	
13,500	54,000	.015933	.001233	.....	.....	
13,750	55,000	.017267	.001334	.....	.....	
14,000	56,000	.018467	.001200	.....	.....	
14,250	57,000	.019500	.001033	.....	.....	
14,500	58,000	.021167	.001667	.....	.....	
14,750	59,000	.022333	.001166	.....	.....	
15,000	60,000	.024267	.001934	.....	.....	
15,500	62,000	.027833	.003566	.....	.....	
16,000	64,000	.031667	.003834	.....	.....	
16,500	66,000	.036667	.005000	.....	.....	
17,000	68,000	.041167	.004500	.....	.....	
17,500	70,000	.046833	.005666	.....	.....	
18,000	72,000	.054000	.007167	.....	.....	
18,500	74,000	.063000	.009000	.....	.....	
19,000	76,000	.0767	.0147	.....	.....	
19,500	78,000	.1000	.0233	.....	.....	
19,910	79,640	.1633	.0633	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,640
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2633
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		½ inch from middle of stem
Character of broken surface		silky, with traces of granulation
Elongation of inch sections		″.24, ″.38, ″.13

No. 2101.

Marks, $\frac{S\ T_{41}}{M\ T,\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001300	.000167	0.	.....	
10,250	41,000	.001367	.000067	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	
11,000	44,000	.001467	.000034	.....	.....	
11,250	45,000	.001500	.000033	.....	.....	
11,500	46,000	.001600	.000100	.....	.....	
11,750	47,000	.001633	.000033	.....	.....	
12,000	48,000	.001700	.000067	.....	.....	Elastic limit.
12,250	49,000	.001800	.000100	.....	.....	
12,500	50,000	.001967	.000167	.....	.....	
12,750	51,000	.002733	.000766	.....	.....	
13,000	52,000	.004833	.002100	.....	.....	
13,250	53,000	.006100	.001267	.....	.....	
13,500	54,000	.007133	.001033	.....	.....	
13,750	55,000	.008033	.000900	.....	.....	
14,000	56,000	.009333	.001300	.....	.....	
14,250	57,000	.010400	.001067	.....	.....	
14,500	58,000	.011500	.001100	.....	.....	
14,750	59,000	.012500	.001000	.....	.....	
15,000	60,000	.013667	.001167	.....	.....	
15,500	62,000	.015833	.002166	.....	.....	
16,000	64,000	.018267	.002434	.....	.....	
16,500	66,000	.020833	.002566	.....	.....	
17,000	68,000	.023500	.002667	.....	.....	
17,500	70,000	.026667	.003167	.....	.....	
18,000	72,000	.029867	.003200	.....	.....	
18,500	74,000	.033333	.003466	.....	.....	
19,000	76,000	.037500	.004167	.....	.....	
19,500	78,000	.042667	.005167	.....	.....	
20,000	80,000	.048000	.005333	.....	.....	
20,500	82,000	.057067	.009067	.....	.....	
21,000	84,000	.065667	.008600	.....	.....	
21,500	86,000	.0867	.021033	.....	.....	
21,910	87,640	.1267	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,640
Elastic limit per square inch of original section	do...	48,000
Elongation per inch after rupture	inch..	0.1333
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		″.55 from neck
Character of broken surface		granular small dull spot at circumference.
Elongation of inch sections		″.12, ″.16*, ″.12

No. 2102.

Marks, $\frac{S\ Ta}{M\ T_1\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001300	.000167	0.	.....	
10,250	41,000	.001367	.000067	.....	.....	
10,500	42,000	.001433	.000066	.....	.....	
10,750	43,000	.001467	.000034	.....	.....	
11,000	44,000	.001500	.000033	.....	.....	
11,250	45,000	.001533	.000033	.....	.....	
11,500	46,000	.001567	.000034	.....	.....	
11,750	47,000	.001600	.000033	.....	.....	
12,000	48,000	.001633	.000033	.....	.....	
12,250	49,000	.001700	.000067	.....	.....	
12,500	50,000	.001733	.000033	.....	.....	Elastic limit.
12,750	51,000	.001933	.000200	.....	.....	
13,000	52,000	.002167	.000234	.....	.....	
13,250	53,000	.003367	.001200	.....	.....	
13,500	54,000	.005000	.001633	.....	.....	
13,750	55,000	.006367	.001367	.....	.....	
14,000	56,000	.007833	.001466	.....	.....	
14,250	57,000	.009167	.001334	.....	.....	
14,500	58,000	.010000	.000833	.....	.....	
14,750	59,000	.010833	.000833	.....	.....	
15,000	60,000	.011833	.001000	.....	.....	
15,500	62,000	.013833	.002000	.....	.....	
16,000	64,000	.016667	.002834	.....	.....	
16,500	66,000	.019333	.002666	.....	.....	
17,000	68,000	.021833	.002500	.....	.....	
17,500	70,000	.024833	.003000	.....	.....	
18,000	72,000	.027867	.003034	.....	.....	
18,500	74,000	.031333	.003466	.....	.....	
19,000	76,000	.035200	.003867	.....	.....	
19,500	78,000	.039500	.004300	.....	.....	
20,000	80,000	.044833	.005333	.....	.....	
20,500	82,000	.052500	.007667	.....	.....	
21,000	84,000	.061000	.0085	.....	.....	
21,500	86,000	.0733	.0123	.....	.....	
21,990	87,960	.1267	.0534	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,960
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	.1267
Elongation per inch under strain at elastic limit	do...	.001733
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		".30 from middle
Character of broken surface	granular; dull spot at circumference	
Elongation of inch sections		".17, ".31, ".19

No. 2103.

Marks, $_{M}{}^{S}T_{2}{}^{Tu}{}_{M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001033	.000233	.000033	.000033	
8,750	35,000	.001233	.000200	.000067	.000034	
10,000	40,000	.001367	.000134	.000067	0.	
10,250	41,000	.001433	.000066	.....	.....	
10,500	42,000	.001467	.000034	.....	.....	
10,750	43,000	.001500	.000033	.....	.....	
11,000	44,000	.001500	0.	.....	.....	
11,250	45,000	.001533	.000033	.....	.....	
11,500	46,000	.001567	.000034	.....	.....	
11,750	47,000	.001600	.000033	.....	.....	Elastic limit.
12,000	48,000	.001700	.000100	.....	.....	
12,250	49,000	.001967	.000267	.....	.....	
12,500	50,000	.002700	.000733	.....	.....	
12,750	51,000	.003733	.001033	.....	.....	
13,000	52,000	.004833	.001100	.....	.....	
13,250	53,000	.006033	.001200	.....	.....	
13,500	54,000	.007067	.001034	.....	.....	
13,750	55,000	.008300	.001233	.....	.....	
14,000	56,000	.009367	.001067	.....	.....	
14,250	57,000	.010167	.000800	.....	.....	
14,500	58,000	.011500	.001333	.....	.....	
14,750	59,000	.012133	.000631	.....	.....	
15,000	60,000	.013167	.001024	.....	.....	
15,500	62,000	.015067	.001900	.....	.....	
16,000	64,000	.017500	.001433	.....	.....	
16,500	66,000	.019833	.002333	.....	.....	
17,000	68,000	.023000	.003167	.....	.....	
17,500	70,000	.026167	.003167	.....	.....	
18,000	72,000	.029000	.002833	.....	.....	
18,500	74,000	.032333	.003333	.....	.....	
19,000	76,000	.035667	.003334	.....	.....	
19,500	78,000	.040333	.004666	.....	.....	
20,000	80,000	.045000	.004667	.....	.....	
20,500	82,000	.052000	.007000	.....	.....	
21,000	84,000	.060000	.008000	.....	.....	
21,500	86,000	.071667	.011667	.....	.....	
22,000	88,000	.0967	.025033	.....	.....	
22,080	88,320	.1167	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,320
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1733
Elongation per inch under strain at elastic limit	do...	.001600
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		″.60 from neck
Character of broken surface		granular at circumference; dull center
Elongation of inch sections		″.33*, ″.10, ″.09

[Additional specimens.]

No. 2478.

Marks, $\frac{8\ T_4}{B\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000200	.000200	0.		
2,500	10,000	.000400	.000200	0.		
3,750	15,000	.000600	.000200	0.		
5,000	20,000	.000833	.000233	0.		
6,250	25,000	.000967	.000134	0.		
7,500	30,000	.001100	.000133	0.		
8,750	35,000	.001233	.000133			
9,000	36,000	.001300	.000067			
9,250	37,000	.001333	.000033			
9,500	38,000	.001367	.000034			
9,750	39,000	.001400	.000033			Elastic limit.
10,000	40,000	.001500	.000100			
10,250	41,000	.001800	.000300			
10,500	42,000	.005733	.003933			
10,750	43,000	.007667	.001934			
11,000	44,000	.008667	.001000			
11,250	45,000	.009767	.001100			
11,500	46,000	.011067	.001300			
11,750	47,000	.012033	.000966			
12,000	48,000	.013500	.001467			
12,250	49,000	.014733	.001233			
12,500	50,000	.016167	.001434			
13,000	52,000	.019667	.003500			
13,500	54,000	.022667	.003000			
14,000	56,000	.026033	.003366			
14,500	58,000	.029700	.003667			
15,000	60,000	.034000	.004300			
15,500	62,000	.038500	.004500			
16,000	64,000	.043733	.005233			
16,500	66,000	.050667	.006934			
17,000	68,000	.059000	.008333			
17,500	70,000	.0700	.0110			
18,000	72,000	.0867	.0167			
18,500	74,000	.1267	.0400			
18,650	74,600	.1667	.0400			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	74,600
Elastic limit per square inch of original section	do	39,000
Elongation per inch after rupture	inch	0.2700
Elongation per inch under strain at elastic limit	do	.0040
Reduction in diameter at point of rupture	do	.234
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		1".28 from nort
Character of broken surface		silky
Elongation of inch sections		".14, ".27, ".3

No. 2479.

Marks, $\frac{8\,T_{41}}{B\,T_5\,O}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000567	.000134	0.	.....	
6,250	25,000	.000700	.000133	0.	.....	
7,500	30,000	.000833	.000133	0.	.....	
7,750	31,000	.000867	.000034	.....	.....	
8,000	32,000	.000900	.000033	.....	.....	
8,250	33,000	.000967	.000067	.....	.....	
8,500	34,000	.001000	.000033	.....	.....	
8,750	35,000	.001033	.000033	.....	.....	
9,000	36,000	.001067	.000034	.....	.....	
9,250	37,000	.001067	0.	.....	.....	
9,500	38,000	.001100	.000033	.....	.....	
9,750	39,000	.001133	.000033	.....	.....	
10,000	40,000	.001200	.000067	.....	.....	
10,250	41,000	.001233	.000033	.....	.....	
10,500	42,000	.001300	.000067	.....	.....	
10,750	43,000	.001400	.000100	.....	.....	Elastic limit.
11,000	44,000	.003333	.001933	.....	.....	
11,250	45,000	.005000	.001667	.....	.....	
11,500	46,000	.006333	.001333	.....	.....	
11,750	47,000	.007133	.000800	.....	.....	
12,000	48,000	.008167	.001034	.....	.....	
12,250	49,000	.009000	.000833	.....	.....	
12,500	50,000	.010333	.001333	.....	.....	
13,000	52,000	.013233	.002900	.....	.....	
13,500	54,000	.016000	.002767	.....	.....	
14,000	56,000	.018567	.002567	.....	.....	
14,500	58,000	.021367	.002800	.....	.....	
15,000	60,000	.024667	.003300	.....	.....	
15,500	62,000	.028333	.003666	.....	.....	
16,000	64,000	.032000	.003667	.....	.....	
16,500	66,000	.036667	.004667	.....	.....	
17,000	68,000	.041367	.004700	.....	.....	
17,500	70,000	.048500	.007133	.....	.....	
18,000	72,000	.055667	.007167	.....	.....	
18,500	74,000	.0667	.011033	.....	.....	
19,000	76,000	.0767	.0100	.....	.....	
19,500	78,000	.1200	.0433	.....	.....	
19,560	78,240	.1400	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,240
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2433
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.185
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1″.4 from neck
Character of broken surface		silky
Elongation of inch sections		″.13, ″.37*, ″.23

No. 2480.

Marks, $\frac{8\ T_{41}}{B\ T_8\ M}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000667	.000200	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.000933	.000133	0.	.....	
7,750	31,000	.000967	.000034	.....	.....	
8,000	32,000	.001000	.000033	.....	.....	
8,250	33,000	.001067	.000067	.....	.....	
8,500	34,000	.001100	.000033	.....	.....	
8,750	35,000	.001133	.000033	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001333	.000066	.....	.....	Elastic limit.
10,250	41,000	.001633	.000300	.....	.....	
10,500	42,000	.004967	.003334	.....	.....	
10,750	43,000	.006667	.001700	.....	.....	
11,000	44,000	.007833	.001166	.....	.....	
11,250	45,000	.009033	.001200	.....	.....	
11,500	46,000	.010167	.001134	.....	.....	
11,750	47,000	.011433	.001266	.....	.....	
12,000	48,000	.012500	.001067	.....	.....	
12,250	49,000	.013333	.000833	.....	.....	
12,500	50,000	.015100	.001767	.....	.....	
13,000	52,000	.018433	.003433	.....	.....	
13,500	54,000	.021233	.002700	.....	.....	
14,000	56,000	.024333	.003100	.....	.....	
14,500	58,000	.028333	.004000	.....	.....	
15,000	60,000	.031833	.003500	.....	.....	
15,500	62,000	.036667	.004834	.....	.....	
16,000	64,000	.041333	.004666	.....	.....	
16,500	66,000	.048167	.006834	.....	.....	
17,000	68,000	.0567	.008533	.....	.....	
17,500	70,000	.0667	.0100	.....	.....	
18,000	72,000	.0767	.0100	.....	.....	
18,500	74,000	.0967	.0200	.....	.....	
18,850	75,400	.1567	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,400
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001333
Reduction in diameter at point of rupture	do...	.195
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		1″.10 from neck
Character of broken surface		silky
Elongation of inch sections		″.40, ″.24, ″.14

No. 2481.

Marks, $\frac{8\ T_{31}}{M\ T_4\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000300	.000133	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000633	.000133	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001100	.000133	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001233	.000066	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001333	.000066	.....	.....	
10,250	41,000	.001400	.000067	.....	.....	
10,500	42,000	.001400	0.	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	
11,000	44,000	.001500	.000067	.....	.....	Elastic limit.
11,250	45,000	.014000	.012500	.....	.....	
11,500	46,000	.014933	.000933	.....	.....	
11,750	47,000	.015367	.000434	.....	.....	
12,000	48,000	.016667	.001300	.....	.....	
12,250	49,000	.017667	.001000	.....	.....	
12,500	50,000	.019033	.001366	.....	.....	
13,000	52,000	.021600	.002567	.....	.....	
13,500	54,000	.024667	.003067	.....	.....	
14,000	56,000	.027833	.003166	.....	.....	
14,500	58,000	.031333	.003500	.....	.....	
15,000	60,000	.035000	.003667	.....	.....	
15,500	62,000	.039333	.004333	.....	.....	
16,000	64,000	.044667	.005334	.....	.....	
16,500	66,000	.050667	.006000	.....	.....	
17,000	68,000	.056333	.005666	.....	.....	
17,500	70,000	.0633	.006967	.....	.....	
18,000	72,000	.0733	.0100	.....	.....	
18,500	74,000	.0900	.0167	.....	.....	
19,000	76,000	.1167	.0267	.....	.....	
19,280	77,120	.1600	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,120
Elastic limit per square inch of original section	do ..	44,000
Elongation per inch after rupture	inch..	0.1667
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		1″.4 from neck
Character of broken surface, granular, radiating from a flaky spot at circumference; opened small cracks in surface of stem.		
Elongation of inch sections		″.16, ″.20+, ″.14

No. 2482.

Marks, $\frac{S\ T_d}{M\ T_s\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000300	.000167	0.		
3,750	15,000	.000467	.000167	0.		
5,000	20,000	.000633	.000166	0.		
6,250	25,000	.000800	.000167	0.		
7,500	30,000	.000967	.000167	0.		
8,750	35,000	.001100	.000133			
9,000	36,000	.001133	.000033			
9,250	37,000	.001167	.000034			
9,500	38,000	.001200	.000033			
9,750	39,000	.001233	.000033			
10,000	40,000	.001333	.000100			
10,250	41,000	.001400	.000067			
10,500	42,000	.001433	.000033			
10,750	43,000	.00143	0.			
11,000	44,000	.001500	.000067			Elastic limit.
11,250	45,000	.014500	.013000			
11,500	46,000	.015667	.001167			
11,750	47,000	.016400	.000733			
12,000	48,000	.018000	.001600			
12,250	49,000	.018833	.000833			
12,500	50,000	.020333	.001500			
13,000	52,000	.023333	.003000			
13,500	54,000	.026000	.002667			
14,000	56,000	.029333	.003333			
14,500	58,000	.032900	.003567			
15,000	60,000	.037233	.004333			
15,500	62,000	.041700	.004467			
16,000	64,000	.047667	.005967			
16,500	66,000	.055667	.008000			
17,000	68,000	.061033	.005366			
17,500	70,000	.0667	.005667			
18,000	72,000	.0833	.0166			
18,500	74,000	.1033	.0200			
19,000	76,000	.1433	.0400			
19,060	76,240	.1667	.0234			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,240
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.3633
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.156
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1 inch from a-ck
Character of broken surface		silky
Elongation of inch sections		″.40″, ″.20, ″.13

No. 2483.

Marks, $\frac{S\ T_{si}}{M\ T_s\ M}$
Diameter, ".565.
Sectional area, .25 square inch.

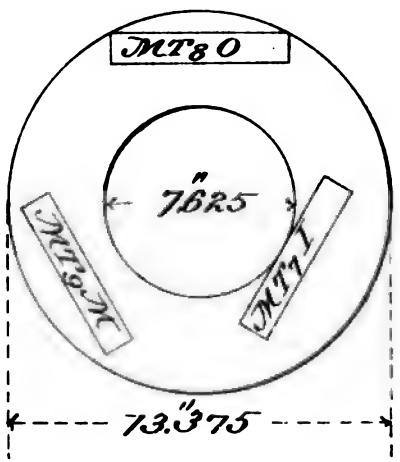
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	—.000033	—.000033	Initial load.
1,250	5,000	.000100	.000100	—.000033	0.	
2,500	10,000	.000233	.000133	—.000033	0.	
3,750	15,000	.000400	.000167	—.000033	0.	
5,000	20,000	.000567	.000167	—.000033	0.	
6,250	25,000	.000767	.000200	—.000033	0.	
7,500	30,000	.000933	.000166			
8,750	35,000	.001067	.000134			
9,000	36,000	.001100	.000033			
9,250	37,000	.001133	.000033			
9,500	38,000	.001200	.000067			
9,750	39,000	.001233	.000033			
10,000	40,000	.001267	.000034			
10,250	41,000	.001300	.000033			
10,500	42,000	.001333	.000033			
10,750	43,000	.001367	.000034			Elastic limit.
11,000	44,000	.013333	.011966			
11,250	45,000	.013733	.000400			
11,500	46,000	.014667	.000934			
11,750	47,000	.015067	.001000			
12,000	48,000	.017067	.001400			
12,250	49,000	.018167	.001100			
12,500	50,000	.019500	.001333			
13,000	52,000	.022367	.002867			
13,500	54,000	.025500	.003133			
14,000	56,000	.028367	.002867			
14,500	58,000	.031733	.003366			
15,000	60,000	.035500	.003767			
15,500	62,000	.040000	.004500			
16,000	64,000	.044667	.004667			
16,500	66,000	.050333	.005666			
17,000	68,000	.058667	.008334			
17,500	70,000	.0807	.008033			
18,000	72,000	.0733	.0006			
18,500	74,000	.0900	.0167			
19,000	76,000	.1100	.0200			
19,350	77,400	.1567	.0467			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,400
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.165
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		".80 from neck
Character of broken surface		silky
Elongation of inch sections		".42", ".16, ".12

Tube No. 41 8" converted Rifle

Additional specimens



H Ex 31 492

No. 2558.

Marks, $\frac{S\ T_{11}}{MT,\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000600	.000200	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001067	.000134	0.	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001167	.000067	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001267	.000034	.....	.....	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	Elastic limit.
11,000	44,000	.011000	.009600	.....	.....	
11,250	45,000	.011667	.000667	.....	.....	
11,500	46,000	.012867	.001200	.....	.....	
11,750	47,000	.013733	.000866	.....	.....	
12,000	48,000	.015567	.001834	.....	.....	
12,250	49,000	.016167	.000600	.....	.....	
12,500	50,000	.017500	.001333	.....	.....	
13,000	52,000	.020333	.002833	.....	.....	
13,500	54,000	.023000	.002667	.....	.....	
14,000	56,000	.026100	.003100	.....	.....	
14,500	58,000	.029600	.003500	.....	.....	
15,000	60,000	.033000	.003400	.....	.....	
15,500	62,000	.038167	.005167	.....	.....	
16,000	64,000	.0433	.005133	.....	.....	
16,500	66,000	.0533	.0100	.....	.....	
17,000	68,000	.0600	.0067	.....	.....	
17,500	70,000	.0700	.0100	.....	.....	
18,000	72,000	.0767	.0067	.....	.....	
18,500	74,000	.0967	.0200	.....	.....	
19,000	76,000	{.1400 / .1633}	{.0433 / .0233}	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,000
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		1″.65 from neck
Character of broken surface		silky
Elongation of inch sections		″.13, ″.34*, ″.13

No. 2559.

Marks, $\frac{S\ T_{41}}{M\ T_{39}}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000800	.000200	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001067	.000100	.....	.....	
9,000	36,000	.001133	.000066	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001267	.000067	.....	.....	Elastic limit.
10,000	40,000	.001367	.000100	.....	.....	
10,250	41,000	.001833	.000466	.....	.....	
10,500	42,000	.012000	.010167	.....	.....	
10,750	43,000	.013000	.001000	.....	.....	
11,000	44,000	.013700	.000700	.....	.....	
11,250	45,000	.014367	.000667	.....	.....	
11,500	46,000	.015667	.001300	.....	.....	
11,750	47,000	.016667	.001000	.....	.....	
12,000	48,000	.018033	.001366	.....	.....	
12,250	49,000	.019167	.001134	.....	.....	
12,500	50,000	.020700	.001533	.....	.....	
13,000	52,000	.023500	.002800	.....	.....	
13,500	54,000	.026667	.003167	.....	.....	
14,000	56,000	.030000	.003333	.....	.....	
14,500	58,000	.034000	.004000	.....	.....	
15,000	60,000	.037833	.003833	.....	.....	
15,500	62,000	.0433	.005467	.....	.....	
16,000	64,000	.0500	.0067	.....	.....	
16,500	66,000	.0600	.0100	.....	.....	
17,000	68,000	.0700	.0100	.....	.....	
17,500	70,000	.0800	.0100	.....	.....	
18,000	72,000	.0933	.0133	.....	.....	
18,500	74,000	.1100	.0167	.....	.....	
18,910	75,640	.1833	.0733	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,640
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.273
Elongation per inch under strain at elastic limit	do...	.00135
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.8
Position of rupture		1".25 from neck
Character of broken surface		silky
Elongation of inch sections		".17, ".31, ".34

No. 2560.

Marks, $\frac{8\ T_4}{M\ T_2\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001233	.000066	.....	.....	Elastic limit.
9,750	39,000	.001367	.000034	.....	.....	
10,000	40,000	.001467	.000100	.....	.....	
10,250	41,000	.010267	.008800	.....	.....	
10,500	42,000	.011000	.000733	.....	.....	
10,750	43,000	.011733	.000733	.....	.....	
11,000	44,000	.013000	.001267	.....	.....	
11,250	45,000	.013733	.000733	.....	.....	
11,500	46,000	.014867	.001134	.....	.....	
11,750	47,000	.015833	.000966	.....	.....	
12,000	48,000	.017367	.001534	.....	.....	
12,250	49,000	.018300	.000933	.....	.....	
12,500	50,000	.019667	.001367	.....	.....	
13,000	52,000	.022333	.002666	.....	.....	
13,500	54,000	.025500	.003167	.....	.....	
14,000	56,000	.029000	.003500	.....	.....	
14,500	58,000	.032167	.003167	.....	.....	
15,000	60,000	.035667	.003500	.....	.....	
15,500	62,000	.040833	.005166	.....	.....	
16,000	64,000	.0467	.005867	.....	.....	
16,500	66,000	.0567	.0100	.....	.....	
17,000	68,000	.0667	.0100	.....	.....	
17,500	70,000	.0733	.0066	.....	.....	
18,000	72,000	.0833	.0100	.....	.....	
18,500	74,000	.1000	.0167	.....	.....	
19,000	76,000	.1300	.0300	.....	.....	
19,140	76,560	.1700	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,560
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.1767
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.074
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		″.90 from neck

Character of broken surface, granular; flaky spot near the circumference; opened cracks in surface of stem.

Elongation of inch sections ..... ″.23*, ″.17, ″.13

No. 1135.

Marks, $\frac{S\ T_{2}}{B\ T_{1}\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000733	.000133	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001100	.000200	.....	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001233	.000066	.....	.....	Elastic limit.
9,750	39,000	.001367	.000134	.....	.....	
10,000	40,000	.002500	.001133	.....	.....	
10,250	41,000	.004167	.001667	.....	.....	
10,500	42,000	.006167	.002000	.....	.....	
10,750	43,000	.007500	.001333	.....	.....	
11,000	44,000	.008333	.000833	.....	.....	
11,250	45,000	.009767	.001434	.008067	.008067	
11,500	46,000	.011000	.001233	.....	.....	
11,750	47,000	.011667	.000667	.....	.....	
12,000	48,000	.013333	.001666	.....	.....	
12,250	49,000	.014933	.001600	.....	.....	
12,500	50,000	.016467	.001534	.014467	.006400	
12,750	51,000	.017067	.000600	.....	.....	
13,000	52,000	.018133	.001066	.....	.....	
13,250	53,000	.019833	.001700	.....	.....	
13,500	54,000	.021833	.002000	.....	.....	
13,750	55,000	.023333	.001500	.....	.....	
14,000	56,000	.025333	.002000	.....	.....	
14,250	57,000	.027467	.002134	.....	.....	
14,500	58,000	.029500	.002033	.....	.....	
14,750	59,000	.032000	.002500	.....	.....	
15,000	60,000	.034333	.002333	.....	.....	
15,500	62,000	.038667	.004334	.....	.....	
16,000	64,000	.045067	.006400	.....	.....	
16,500	66,000	.052000	.006933	.....	.....	
17,000	68,000	.061500	.009500	.....	.....	
17,500	70,000	.075000	.013500	.....	.....	
18,000	72,000	.1067	.0317	.....	.....	
18,400	73,600	.1833	.0766	.....	.....	Tensile strength.

General summary.

Specific gravity	7.85
Hardness	12
Tensile strength per square inch of original section ..... pounds	73,6
Elastic limit per square inch of original section ..... do	38,0
Elongation per inch after rupture ..... inch	0.2
Elongation per inch under strain at elastic limit ..... do	.00
Reduction in diameter at point of rupture ..... do	.11
Reduction in area after rupture, per centum of original section	36
Position of rupture ..... at middle of st	
Character of broken surface ..... silky; numerous cracks developed in surface of stem	
Elongation of inch sections ..... ".12, ".36", ".1	

No. 1136.

Marks, $\frac{8\ Ts}{B\ T.\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001100	.000133	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001200	.000067	.....	.....	
9,500	38,000	.001300	.000100	.....	.....	
9,750	39,000	.001367	.000067	.....	.....	Elastic limit.
10,000	40,000	.001633	.000266	.002500	.002500	
10,250	41,000	.006000	.004367	.....	.....	
10,500	42,000	.007167	.001167	.....	.....	
10,750	43,000	.007800	.000633	.....	.....	
11,000	44,000	.008900	.001100	.....	.....	
11,250	45,000	.009867	.000967	.008200	.005700	
11,500	46,000	.011600	.001733	.....	.....	
11,750	47,000	.012533	.000933	.....	.....	
12,000	48,000	.013500	.000967	.....	.....	
12,250	49,000	.014667	.001167	.....	.....	
12,500	50,000	.016067	.001500	.014100	.005900	
12,750	51,000	.016767	.000700	.....	.....	
13,000	52,000	.018400	.001633	.....	.....	
13,250	53,000	.020000	.001600	.....	.....	
13,500	54,000	.021933	.001933	.....	.....	
13,750	55,000	.023433	.001500	.....	.....	
14,000	56,000	.025500	.002067	.....	.....	
14,250	57,000	.027667	.002167	.....	.....	
14,500	58,000	.029667	.002000	.....	.....	
14,750	59,000	.031333	.001666	.....	.....	
15,000	60,000	.033567	.002234	.....	.....	
15,500	62,000	.038267	.004700	.....	.....	
16,000	64,000	.043733	.005466	.....	.....	
16,500	66,000	.051167	.007434	.....	.....	
17,000	68,000	.060000	.008833	.....	.....	
17,500	70,000	.071667	.011667	.....	.....	
18,000	72,000	.0933	.021633	.....	.....	
18,500	74,000	.1267	.0334	.....	.....	
18,610	74,440	.1767	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,440
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2833
Elongation per inch under strain at elastic limit	do...	.0013+7
Reduction in diameter at point of rupture	do...	.194
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		½ inch from middle of stem
Character of broken surface		silky; cup-shaped end
Elongation of inch sections		″.19, ″.47+, ″.19

No. 1137.

Marks, $\frac{8\,T_{4}}{B\,T_{3}\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001000	.000200	.000033	.000033	
8,750	35,000	.001233	.000233	.000167	.000134	Elastic limit.
9,000	36,000	.006933	.005700	.....	.....	
9,250	37,000	.007567	.000634	.....	.....	
9,500	38,000	.008667	.001100	.....	.....	
9,750	39,000	.009800	.001133	.....	.....	
10,000	40,000	.010833	.001033	.009500	.009433	
10,250	41,000	.011600	.000767	.....	.....	
10,500	42,000	.012900	.001300	.....	.....	
10,750	43,000	.014167	.001267	.....	.....	
11,000	44,000	.015500	.001333	.....	.....	
11,250	45,000	.017067	.001567	.....	.....	
11,500	46,000	.018367	.001300	.....	.....	
11,750	47,000	.019333	.000966	.....	.....	
12,000	48,000	.020933	.001600	.....	.....	
12,250	49,000	.022300	.001367	.....	.....	
12,500	50,000	.024067	.001767	.....	.....	
12,750	51,000	.025667	.001600	.....	.....	
13,000	52,000	.027167	.001500	.....	.....	
13,250	53,000	.029000	.001833	.....	.....	
13,500	54,000	.031333	.002133	.....	.....	
13,750	55,000	.033333	.002200	.....	.....	
14,000	56,000	.035167	.001834	.....	.....	
14,250	57,000	.037267	.002100	.....	.....	
14,500	58,000	.040200	.002933	.....	.....	
14,750	59,000	.042500	.002300	.....	.....	
15,000	60,000	.046000	.003500	.....	.....	
15,500	62,000	.052833	.006833	.....	.....	
16,000	64,000	.060667	.007834	.....	.....	
16,500	66,000	.071667	.011000	.....	.....	
17,000	68,000	.0933	.021633	.....	.....	
17,500	70,000	.1133	.0200	.....	.....	
17,880	71,520	.1700	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	71,52[illegible]
Elastic limit per square inch of original section	do ..	35,[illegible]
Elongation per inch after rupture	inch..	0.[illegible]
Elongation per inch under strain at elastic limit	do...	.001[illegible]
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		1″.10 from neck
Character of broken surface	silky; cracks in surface of stem near point of rupture	
Elongation of inch sections		″.39*, ″.25, ″.16

No. 1138.

Marks, $\frac{8\ T_{42}}{M\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000533	.000200	0.	.....	
5,000	20,000	.000733	.000200	0.	.....	
6,250	25,000	.000900	.000167	0.	.....	
7,500	30,000	.001067	.000167	0.	.....	
8,750	35,000	.001200	.000133	0.	.....	
9,000	36,000	.001233	.000033	.....	.....	
9,250	37,000	.001267	.000034	.....	.....	
9,500	38,000	.001333	.000066	.....	.....	
9,750	39,000	.001367	.000034	.....	.....	
10,000	40,000	.001400	.000033	.000133	.000133	Elastic limit.
10,250	41,000	.001533	.000133	.....	.....	
10,500	42,000	.001667	.000134	.....	.....	
10,750	43,000	.003733	.002066	.....	.....	
11,000	44,000	.005133	.001400	.....	.....	
11,250	45,000	.006767	.001634	.005200	.005067	
11,500	46,000	.007500	.000733	.....	.....	
11,750	47,000	.008667	.001167	.....	.....	
12,000	48,000	.009833	.001166	.....	.....	
12,250	49,000	.011333	.001500	.....	.....	
12,500	50,000	.012667	.001334	.....	.....	
12,750	51,000	.013300	.000633	.....	.....	
13,000	52,000	.014467	.001167	.....	.....	
13,250	53,000	.016000	.001533	.....	.....	
13,500	54,000	.017567	.001567	.....	.....	
13,750	55,000	.018333	.000766	.....	.....	
14,000	56,000	.019500	.001167	.....	.....	
14,250	57,000	.020767	.001267	.....	.....	
14,500	58,000	.022167	.001400	.....	.....	
14,750	59,000	.023600	.001433	.....	.....	
15,000	60,000	.025333	.001733	.....	.....	
15,500	62,000	.029033	.003700	.....	.....	
16,000	64,000	.032667	.003634	.....	.....	
16,500	66,000	.038000	.005333	.....	.....	
17,000	68,000	.042000	.004000	.....	.....	
17,500	70,000	.047333	.005333	.....	.....	
18,000	72,000	.055333	.008000	.....	.....	
18,500	74,000	.064833	.009500	.....	.....	
19,000	76,000	.078000	.013167	.....	.....	
19,500	78,000	.1100	.0320	.....	.....	
19,720	78,880	.1533	.0433	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8514
Hardness	14.98
Tensile strength per square inch of original section ..... pounds	78,880
Elastic limit per square inch of original section ..... do	40,000
Elongation per inch after rupture ..... inch	0.2200
Elongation per inch under strain at elastic limit ..... do	.001400
Reduction in diameter at point of rupture ..... do	.154
Reduction in area after rupture, per centum of original section	47.2
Position of rupture	⅜ inch from middle of stem
Character of broken surface	silky
Elongation of inch sections	″.16, ″.38*, ″.12

No. 1139.

Marks, $\frac{8\ T_2}{M\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001133	.000200	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001300	.000033	.000033	.000033	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	Elastic limit.
10,750	43,000	.001500	.000133	.....	.....	
11,000	44,000	.002233	.000733	.....	.....	
11,250	45,000	.004033	.001800	.002433	.002400	
11,500	46,000	.005700	.001667	.....	.....	
11,750	47,000	.006833	.001133	.....	.....	
12,000	48,000	.008100	.001267	.....	.....	
12,250	49,000	.009100	.001000	.....	.....	
12,500	50,000	.010667	.001567	.008733	.006300	
12,750	51,000	.011333	.000666	.....	.....	
13,000	52,000	.012267	.000934	.....	.....	
13,250	53,000	.013267	.001000	.....	.....	
13,500	54,000	.014733	.001466	.....	.....	
13,750	55,000	.015667	.000934	.....	.....	
14,000	56,000	.017067	.001400	.....	.....	
14,250	57,000	.018167	.001100	.....	.....	
14,500	58,000	.019500	.001333	.....	.....	
14,750	59,000	.021067	.001567	.....	.....	
15,000	60,000	.023000	.001933	.....	.....	
15,500	62,000	.025567	.002567	.....	.....	
16,000	64,000	.029000	.003433	.....	.....	
16,500	66,000	.033000	.004000	.....	.....	
17,000	68,000	.037500	.004500	.....	.....	
17,500	70,000	.042833	.005333	.....	.....	
18,000	72,000	.048667	.005834	.....	.....	
18,500	74,000	.056667	.008000	.....	.....	
19,000	76,000	.066000	.009333	.....	.....	
19,500	78,000	.082000	.0160	.....	.....	
20,000	80,000	.1133	.0313	.....	.....	
20,140	80,560	.1600	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	[illegible]
Elastic limit per square inch of original section	do	42,[illegible]
Elongation per inch after rupture	inch	0.[illegible]
Elongation per inch under strain at elastic limit	do	.00[illegible]
Reduction in diameter at point of rupture	do	.15[illegible]
Reduction in area after rupture, per centum of original section		47.[illegible]
Position of rupture		".15 from middle of [illegible]
Character of broken surface		[illegible]
Elongation of inch sections		".20, ".40", [illegible]

No. 1140.

Marks, $\frac{S\ Ts}{M\ Ts\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000233	.000233	.000067	.000067	
2,500	10,000	.000433	.000200	.000067	0.	
3,750	15,000	.000633	.000200	.000100	.000033	
5,000	20,000	.000800	.000167	.000133	.000033	
6,250	25,000	.000967	.000167	.000133	0.	
7,500	30,000	.001133	.000166	.000133	0.	
8,750	35,000	.001433	.000300	.000300	.000167	
9,000	36,000	.001533	.000100	.....	.....	Elastic limit.
9,250	37,000	.002133	.000600	.....	.....	
9,500	38,000	.002867	.000734	.....	.....	
9,750	39,000	.006233	.003366	.....	.....	
10,000	40,000	.008367	.002134	.006900	.006800	
10,250	41,000	.009000	.000633	.....	.....	
10,500	42,000	.009533	.000533	.....	.....	
10,750	43,000	.010033	.001100	.....	.....	
11,000	44,000	.011933	.001300	.....	.....	
11,250	45,000	.013033	.001100	.....	.....	
11,500	46,000	.014333	.001300	.....	.....	
11,750	47,000	.015567	.001234	.....	.....	
12,000	48,000	.016733	.001166	.....	.....	
12,250	49,000	.017800	.001067	.....	.....	
12,500	50,000	.018833	.001033	.....	.....	
12,750	51,000	.020067	.001234	.....	.....	
13,000	52,000	.021500	.001433	.....	.....	
13,250	53,000	.022667	.001167	.....	.....	
13,500	54,000	.024367	.001600	.....	.....	
13,750	55,000	.025567	.001200	.....	.....	
14,000	56,000	.027533	.001966	.....	.....	
14,250	57,000	.029067	.001534	.....	.....	
14,500	58,000	.031333	.002266	.....	.....	
14,750	59,000	.032833	.001500	.....	.....	
15,000	60,000	.035500	.002667	.....	.....	
15,500	62,000	.039333	.003833	.....	.....	
16,000	64,000	.044667	.005334	.....	.....	
16,500	66,000	.051167	.006500	.....	.....	
17,000	68,000	.057833	.006666	.....	.....	
17,500	70,000	.067667	.009834	.....	.....	
18,000	72,000	.0867	.021033	.....	.....	
18,500	74,000	.1033	.0166	.....	.....	
19,000	76,000	.1400	.0367	.....	.....	
19,020	76,080	.1767	.0367	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,080
Elastic limit per square inch of original section	do...	36,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001533
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		".4 from middle of stem
Character of broken surface		granular; dull flaky spot at circumference
Elongation of inch sections		".19, ".24*, ".17

No. 1141.

Marks, $\frac{8\ T_{42}}{B\ T,\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000300	.000167	0.		
3,750	15,000	.000467	.000167	0.		
5,000	20,000	.000633	.000166	0.		
6,250	25,000	.000767	.000134	0.		
7,500	30,000	.000933	.000166	0.		
8,750	35,000	.001100	.000167	0.		
10,000	40,000	.001267	.000167	.000033	.000033	Elastic limit.
10,250	41,000	.004667	.003400			
10,500	42,000	.006100	.001433			
10,750	43,000	.006667	.000567			
11,000	44,000	.007933	.001266			
11,250	45,000	.009000	.001067	.007367	.007334	
11,500	46,000	.009900	.000900			
11,750	47,000	.010867	.000967			
12,000	48,000	.012167	.001300			
12,250	49,000	.014000	.001833			
12,500	50,000	.015267	.001267			
12,750	51,000	.016433	.001166			
13,000	52,000	.017833	.001400			
13,250	53,000	.019033	.001200			
13,500	54,000	.020800	.001767			
13,750	55,000	.022167	.001367			
14,000	56,000	.024500	.002333			
14,250	57,000	.025667	.001167			
14,500	58,000	.027933	.002266			
14,750	59,000	.029800	.001867			
15,000	60,000	.031933	.002133			
15,500	62,000	.036400	.004467			
16,000	64,000	.041800	.005400			
16,500	66,000	.049500	.007700			
17,000	68,000	.057333	.007833			
17,500	70,000	.068500	.011167			
18,000	72,000	.0933	.0248			
18,500	74,000	.1133	.0200			
18,700	74,800	.1733	.0600			Tensile strength.

General summary.

Specific gravity	7.857
Hardness	12.72
Tensile strength per square inch of original section ..... pounds	74,80
Elastic limit per square inch of original section ..... do	40,1[illegible]
Elongation per inch after rupture ..... inch	6.256
Elongation per inch under strain at elastic limit ..... do	.001267
Reduction in diameter at point of rupture ..... do	.164
Reduction in area after rupture, per centum of original section	48.7
Position of rupture	at middle of stem
Character of broken surface	silky
Elongation of inch sections	″.16, ″.44″, ″.15

No. 1142.

Marks, $\frac{S\ T\ as}{B\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000467	.000200	0.	.....	
5,000	20,000	.000667	.000200	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.000967	.000167	.000033	.000033	
8,750	35,000	.001133	.000166	.000067	.000034	
9,000	36,000	.001200	.000067	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001367	.000100	.....	.....	
10,000	40,000	.001400	.000033	.000200	.000133	Elastic limit.
10,250	41,000	.003367	.001967	.....	.....	
10,500	42,000	.005767	.001400	.....	.....	
10,750	43,000	.006533	.000766	.....	.....	
11,000	44,000	.007500	.000967	.....	.....	
11,250	45,000	.008733	.001233	.007067	.006867	
11,500	46,000	.009500	.000767	.....	.....	
11,750	47,000	.010400	.000900	.....	.....	
12,000	48,000	.012067	.001667	.....	.....	
12,250	49,000	.013233	.001166	.....	.....	
12,500	50,000	.014267	.001034	.....	.....	
12,750	51,000	.015400	.001133	.....	.....	
13,000	52,000	.016867	.001467	.....	.....	
13,250	53,000	.018000	.001133	.....	.....	
13,500	54,000	.019567	.001567	.....	.....	
13,750	55,000	.020867	.001300	.....	.....	
14,000	56,000	.022600	.001733	.....	.....	
14,250	57,000	.024100	.001500	.....	.....	
14,500	58,000	.026000	.001900	.....	.....	
14,750	59,000	.027400	.001400	.....	.....	
15,000	60,000	.029867	.002467	.....	.....	
15,500	62,000	.033733	.003866	.....	.....	
16,000	64,000	.038167	.004434	.....	.....	
16,500	66,000	.044333	.006166	.....	.....	
17,000	68,000	.051667	.007334	.....	.....	
17,500	70,000	.059500	.007833	.....	.....	
18,000	72,000	.070667	.011167	.....	.....	
18,500	74,000	.088667	.018000	.....	.....	
19,000	76,000	.1400	.051333	.....	.....	
19,010	76,040	.1533	.0133	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,040
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		".85 from neck
Character of broken surface		silky
Elongation of inch sections		".44", ".17, ".11

No. 1143.

Marks, $\frac{8\,T_{12}}{B\,T_2\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001133	0.	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001200	.000033	.....	.....	Elastic limit.
10,000	40,000	.002500	.001300	.001267	.001267	
10,250	41,000	.004967	.002467	.....	.....	
10,500	42,000	.006500	.001533	.....	.....	
10,750	43,000	.007600	.001100	.....	.....	
11,000	44,000	.008733	.001133	.....	.....	
11,250	45,000	.009633	.000900	.008033	.006766	
11,500	46,000	.010767	.001134	.....	.....	
11,750	47,000	.011500	.000733	.....	.....	
12,000	48,000	.012833	.001333	.....	.....	
12,250	49,000	.013933	.001100	.....	.....	
12,500	50,000	.015500	.001567	.....	.....	
12,750	51,000	.016867	.001367	.....	.....	
13,000	52,000	.018333	.001466	.....	.....	
13,250	53,000	.019500	.001167	.....	.....	
13,500	54,000	.021167	.001667	.....	.....	
13,750	55,000	.022900	.001733	.....	.....	
14,000	56,000	.024167	.001267	.....	.....	
14,250	57,000	.026000	.001833	.....	.....	
14,500	58,000	.028300	.002300	.....	.....	
14,750	59,000	.030000	.001700	.....	.....	
15,000	60,000	.032333	.002333	.....	.....	
15,500	62,000	.036833	.004500	.....	.....	
16,000	64,000	.042333	.005500	.....	.....	
16,500	66,000	.048333	.006000	.....	.....	
17,000	68,000	.055500	.007167	.....	.....	
17,500	70,000	.065833	.010333	.....	.....	
18,000	72,000	.081667	.015834	.....	.....	
18,500	74,000	.1133	.031633	.....	.....	
18,760	75,040	.1767	.0634	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section ..... pounds.. [illegible]
Elastic limit per square inch of original section ..... do... [illegible]
Elongation per inch after rupture ..... inch.. [illegible]
Elongation per inch under strain at elastic limit ..... do.. [illegible]
Reduction in diameter at point of rupture ..... do.. [illegible]
Reduction in area after rupture, per centum of original section ..... [illegible]
Position of rupture ..... ¼ inch from middle of stem
Character of broken surface ..... silky
Elongation of inch sections ..... ″.21, ″.49, ″.17

No. 1144.

Marks, $\frac{8\ T_{43}}{M\ T_1\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000367	.000200	0.	.....	
3,750	15,000	.000533	.000166	0.	.....	
5,000	20,000	.000700	.000167	.000033	.000033	
6,250	25,000	.000867	.000167	.000033	0.	
7,500	30,000	.001033	.000166	.000033	0.	
8,750	35,000	.001200	.000167	.000067	.000034	
9,000	36,000	.001267	.000067	.....	.....	
9,250	37,000	.001333	.000066	.....	.....	Elastic limit.
9,500	38,000	.003133	.001800	.....	.....	
9,750	39,000	.007833	.004700	.....	.....	
10,000	40,000	.009633	.001800	.008067	.008000	
10,250	41,000	.010167	.000534	.....	.....	
10,500	42,000	.010800	.000633	.....	.....	
10,750	43,000	.011600	.000800	.....	.....	
11,000	44,000	.012700	.001100	.....	.....	
11,250	45,000	.013600	.000900	.011900	.003833	
11,500	46,000	.015233	.001633	.....	.....	
11,750	47,000	.015833	.000800	.....	.....	
12,000	48,000	.017033	.001200	.....	.....	
12,250	49,000	.018167	.001134	.....	.....	
12,500	50,000	.019500	.001333	.....	.....	
12,750	51,000	.020500	.001000	.....	.....	
13,000	52,000	.022067	.001567	.....	.....	
13,250	53,000	.023267	.001200	.....	.....	
13,500	54,000	.024933	.001666	.....	.....	
13,750	55,000	.026333	.001400	.....	.....	
14,000	56,000	.027867	.001534	.....	.....	
14,250	57,000	.029200	.001333	.....	.....	
14,500	58,000	.031167	.001967	.....	.....	
14,750	59,000	.032733	.001566	.....	.....	
15,000	60,000	.035000	.002267	.....	.....	
15,500	62,000	.039167	.004167	.....	.....	
16,000	64,000	.043733	.004566	.....	.....	
16,500	66,000	.049167	.005434	.....	.....	
17,000	68,000	.054500	.005333	.....	.....	
17,500	70,000	.063000	.008500	.....	.....	
18,000	72,000	.072333	.009333	.....	.....	
18,500	74,000	.0900	.017667	.....	.....	
19,000	76,000	.1033	.0133	.....	.....	
19,500	78,000	.1367	.0334	.....	.....	
19,610	78,440	.1733	.0366	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8537
Hardness		12.78
Tensile strength per square inch of original section	pounds..	78,440
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001333
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		1 inch from neck
Character of broken surface	silky; 50 per centum of surface slightly granular	
Elongation of inch sections		".35*, ".18, ".17

No. 1145.

Marks, $\frac{8\,T_{42}}{M\,T_2\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000667	.000200	.000033	.000033	
6,250	25,000	.000800	.000133	.000033	0.	
7,500	30,000	.000967	.000167	.000033	0.	
8,750	35,000	.001133	.000166	.000067	.000034	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	Elastic limit.
9,750	39,000	.007067	.005834	.....	.....	
10,000	40,000	.009933	.002866	.008400	.008333	
10,250	41,000	.010767	.000834	.....	.....	
10,500	42,000	.012167	.001400	.....	.....	
10,750	43,000	.012967	.000800	.....	.....	
11,000	44,000	.014367	.001400	.....	.....	
11,250	45,000	.015200	.000833	.013433	.005033	
11,500	46,000	.015800	.000600	.....	.....	
11,750	47,000	.016500	.000700	.....	.....	
12,000	48,000	.018733	.002233	.....	.....	
12,250	49,000	.019333	.000600	.....	.....	
12,500	50,000	.020800	.001467	.....	.....	
12,750	51,000	.022333	.001533	.....	.....	
13,000	52,000	.023833	.001500	.....	.....	
13,250	53,000	.025167	.001334	.....	.....	
13,500	54,000	.026833	.001666	.....	.....	
13,750	55,000	.028667	.001834	.....	.....	
14,000	56,000	.030267	.001600	.....	.....	
14,250	57,000	.031733	.001466	.....	.....	
14,500	58,000	.033767	.002034	.....	.....	
14,750	59,000	.036333	.002566	.....	.....	
15,000	60,000	.038500	.002167	.....	.....	
15,500	62,000	.043200	.004700	.....	.....	
16,000	64,000	.048767	.005567	.....	.....	
16,500	66,000	.055333	.006566	.....	.....	
17,000	68,000	.063000	.007667	.....	.....	
17,500	70,000	.073667	.010667	.....	.....	
18,000	72,000	.0933	.019633	.....	.....	
18,500	74,000	.1100	.0167	.....	.....	
18,980	75,920	.1800	.0700	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section ..... pounds.. [illegible]
Elastic limit per square inch of original section ..... do... [illegible]
Elongation per inch after rupture ..... inch.. [illegible]
Elongation per inch under strain at elastic limit ..... do... [illegible]
Reduction in diameter at point of rupture ..... do... [illegible]
Reduction in area after rupture, per centum of original section ..... [illegible]
Position of rupture ..... ¼ inch from middle of [illegible]
Character of broken surface ..... silky
Elongation of inch sections ..... ″.19, ″.38, ″.16

No. 1146.

Marks, $\frac{8\ T_4}{M\ T_3\ M}$
Diameter, ".563.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.		
2,500	10,000	.000267	.000167	0.		
3,750	15,000	.000433	.000166	0.		
5,000	20,000	.000600	.000167	0.		
6,250	25,000	.000767	.000167	0.		
7,500	30,000	.000900	.000133	0.		
8,750	35,000	.001100	.000200	.000033	.000033	
9,000	36,000	.001133	.000033			
9,250	37,000	.001200	.000067			Elastic limit.
9,500	38,000	.001367	.000167			
9,750	39,000	.001333	.001766			
10,000	40,000	.005133	.002000			
10,250	41,000	.006167	.001034			
10,500	42,000	.007167	.001000			
10,750	43,000	.007933	.000766			
11,000	44,000	.009033	.001100			
11,250	45,000	.010200	.001167	.008533	.008500	
11,500	46,000	.010633	.000433			
11,750	47,000	.011500	.000867			
12,000	48,000	.012833	.001333			
12,250	49,000	.013867	.001034			
12,500	50,000	.014967	.001100			
12,750	51,000	.016167	.001200			
13,000	52,000	.017400	.001233			
13,250	53,000	.018600	.001200			
13,500	54,000	.019767	.001167			
13,750	55,000	.021000	.001233			
14,000	56,000	.022533	.001533			
14,250	57,000	.023967	.001434			
14,500	58,000	.025267	.001300			
14,750	59,000	.026700	.001433			
15,000	60,000	.028767	.002067			
15,500	62,000	.032033	.003266			
16,000	64,000	.036333	.004300			
16,500	66,000	.040833	.004500			
17,000	68,000	.046333	.005500			
17,500	70,000	.053000	.006667			
18,000	72,000	.061333	.008333			
18,500	74,000	.071667	.010334			
19,000	76,000	.087067	.016000			
19,500	78,000	.1233	.035633			
19,670	78,680	.1600	.0367			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,680
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2033
Elongation per inch under strain at elastic limit	do...	.001200
Reduction in diameter at point of rupture	do...	.063
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		".1 from middle of stem
Character of broken surface		granular; dull, flaky spot at circumference
Elongation of inch sections		".21, ".24*, ".16

No. 2152.

Marks, $\frac{S\ T_{44}}{B\ T_1\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.		
2,500	10,000	.000333	.000166	0.		
3,750	15,000	.000500	.000167	0.		
5,000	20,000	.000667	.000167	0.		
6,250	25,000	.000833	.000166	0.		
7,500	30,000	.001000	.000167	0.		
8,750	35,000	.001167	.000167	0.		
10,000	40,000	.001367	.000200	.000067	.000067	Elastic limit.
10,250	41,000	.003500	.002133			
10,500	42,000	.005100	.001600			
10,750	43,000	.006400	.001300			
11,000	44,000	.009000	.002600			
11,250	45,000	.010233	.001233			
11,500	46,000	.011500	.001267			
11,750	47,000	.012500	.001000			
12,000	48,000	.013833	.001333			
12,250	49,000	.015167	.001334			
12,500	50,000	.016500	.001333			
13,000	52,000	.019067	.002567			
13,500	54,000	.022500	.003433			
14,000	56,000	.025667	.003167			
14,500	58,000	.029667	.004000			
15,000	60,000	.033167	.003500			
15,500	62,000	.038000	.004833			
16,000	64,000	.043267	.005267			
16,500	66,000	.049667	.006400			
17,000	68,000	.056667	.007000			
17,500	70,000	.0667	.010033			
18,000	72,000	.0800	.0133			
18,500	74,000	.1033	.0133			
18,850	75,400	.1600	.0567			Tensile strength.

General summary.

Specific gravity 7.856
Hardness 12.36
Tensile strength per square inch of original section ..... pounds.. 75,400
Elastic limit per square inch of original section ..... do... 40,000
Elongation per inch after rupture ..... inch.. 0.1600
Elongation per inch under strain at elastic limit ..... do... .001367
Reduction in diameter at point of rupture ..... do... .134
Reduction in area after rupture, per centum of original section 47.2
Position of rupture ..... ".55 from neck
Character of broken surface, granular, 70 per centum; dull silky, 30 per centum; opened cracks in surface of stem.
Elongation of inch sections ..... ".19", ".16", ".16"

No. 2153.

Marks, $\frac{8\ T_{44}}{B\ T_2\ O}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000767	.000134	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001067	.000134	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	
10,250	41,000	.001300	.000067	.....	.....	
10,500	42,000	.001367	.000067	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	
11,000	44,000	.001433	.000033	.....	.....	Elastic limit.
11,250	45,000	.004333	.002900	.....	.....	
11,500	46,000	.007467	.003134	.....	.....	
11,750	47,000	.008667	.001200	.....	.....	
12,000	48,000	.009833	.001166	.....	.....	
12,250	49,000	.010700	.000867	.....	.....	
12,500	50,000	.011667	.000967	.....	.....	
13,000	52,000	.013733	.002066	.....	.....	
13,500	54,000	.017067	.003334	.....	.....	
14,000	56,000	.020100	.003033	.....	.....	
14,500	58,000	.023333	.003233	.....	.....	
15,000	60,000	.026167	.002834	.....	.....	
15,500	62,000	.029467	.003300	.....	.....	
16,000	64,000	.033267	.003800	.....	.....	
16,500	66,000	.037833	.004566	.....	.....	
17,000	68,000	.043500	.005667	.....	.....	
17,500	70,000	.051167	.007667	.....	.....	
18,000	72,000	.059500	.008333	.....	.....	
18,500	74,000	.071333	.011833	.....	.....	
19,000	76,000	.0967	.025367	.....	.....	
19,400	77,600	.1600	.0633	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,600
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.175
Reduction in area after rupture, per centum of original section		52.2
Position of rupture	½ inch from middle of stem	
Character of broken surface		silky
Elongation of inch sections		″.24, ″.41*, ″.13

No. 2154.

Marks, $\frac{8\,T_{44}}{B\,T_2\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000833	.000200	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001133	.000133	0.	.....	
9,000	36,000	.001167	.000134	.....	.....	
9,250	37,000	.001233	.000066	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	
10,000	40,000	.001367	.000067	.....	.....	
10,250	41,000	.001400	.000033	.....	.....	Elastic limit.
10,500	42,000	.001500	.000100	.....	.....	
10,750	43,000	.003400	.001900	.....	.....	
11,000	44,000	.005333	.001933	.....	.....	
11,250	45,000	.006533	.001200	.....	.....	
11,500	46,000	.007800	.001267	.....	.....	
11,750	47,000	.008700	.000900	.....	.....	
12,000	48,000	.009833	.001133	.....	.....	
12,250	49,000	.011067	.001234	.....	.....	
12,500	50,000	.012033	.000966	.....	.....	
13,000	52,000	.014267	.002234	.....	.....	
13,500	54,000	.016733	.002466	.....	.....	
14,000	56,000	.019367	.002634	.....	.....	
14,500	58,000	.022833	.003466	.....	.....	
15,000	60,000	.025833	.003000	.....	.....	
15,500	62,000	.029667	.003834	.....	.....	
16,000	64,000	.034000	.004333	.....	.....	
16,500	66,000	.037933	.003933	.....	.....	
17,000	68,000	.043333	.005400	.....	.....	
17,500	70,000	.051333	.008000	.....	.....	
18,000	72,000	.058000	.006667	.....	.....	
18,500	74,000	.068833	.010833	.....	.....	
19,000	76,000	.0900	.021167	.....	.....	
19,500	78,000	.1433	.0533	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	78,000
Elastic limit per square inch of original section	do	41,000
Elongation per inch after rupture	inch	0.2633
Elongation per inch under strain at elastic limit	do	.001400
Reduction in diameter at point of rupture	do	.174
Reduction in area after rupture, per centum of original section		[illegible]
Position of rupture	¼ inch from middle of stem	
Character of broken surface		silky
Elongation of inch sections		″.18, ″.45°, ″.16

No. 2155.

Marks, $\frac{8\ T_{44}}{M\ T,\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001133	0.	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001233	.000066	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001367	.000100	.000033	.000033	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001400	0.	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	
11,000	44,000	.001467	.000034	.....	.....	
11,250	45,000	.001500	.000033	.000033	.000033	
11,500	46,000	.001567	.000067	.....	.....	Elastic limit.
11,750	47,000	.001700	.000133	.....	.....	
12,000	48,000	.005000	.003300	.....	.....	
12,250	49,000	.007667	.002667	.....	.....	
12,500	50,000	.009000	.001333	.....	.....	
12,750	51,000	.010333	.001333	.....	.....	
13,000	52,000	.010933	.000600	.....	.....	
13,250	53,000	.011667	.000734	.....	.....	
13,500	54,000	.012700	.001033	.....	.....	
13,750	55,000	.013733	.001033	.....	.....	
14,000	56,000	.015167	.001434	.....	.....	
14,250	57,000	.016600	.001433	.....	.....	
14,500	58,000	.018000	.001400	.....	.....	
14,750	59,000	.019000	.001000	.....	.....	
15,000	60,000	.020400	.001400	.....	.....	
15,500	62,000	.023500	.003100	.....	.....	
16,000	64,000	.026833	.003333	.....	.....	
16,500	66,000	.030400	.003567	.....	.....	
17,000	68,000	.034500	.004100	.....	.....	
17,500	70,000	.039000	.005500	.....	.....	
18,000	72,000	.044000	.005000	.....	.....	
18,500	74,000	.050667	.006667	.....	.....	
19,000	76,000	.058833	.008166	.....	.....	
19,500	78,000	.070500	.011667	.....	.....	
20,000	80,000	.0933	.0228	.....	.....	
20,410	81,640	.1567	.0634	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,640
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.1567
Elongation per inch under strain at elastic limit	do...	.001567
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		″.70 from neck
Character of broken surface, granular; dull spot at circumference; opened cracks in surface of stem		
Elongation of inch sections		″.20*, ″.13, ″.14

No. 2156.

Marks, $\frac{8\ T_{44}}{M\ T_2\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.		
2,500	10,000	.000333	.000166	0.		
3,750	15,000	.000500	.000167	0.		
5,000	20,000	.000667	.000167	0.		
6,250	25,000	.000833	.000166	0.		
7,500	30,000	.001000	.000167	0.		
8,750	35,000	.001133	.000133	0.		
9,000	36,000	.001167	.000034			
9,250	37,000	.001200	.000033			
9,500	38,000	.001233	.000033			
9,750	39,000	.001267	.000034			
10,000	40,000	.001333	.000066	0.		
10,250	41,000	.001367	.000034			
10,500	42,000	.001400	.000033			
10,750	43,000	.001433	.000033			Elastic limit.
11,000	44,000	.000000	.007567			
11,250	45,000	.010333	.001333			
11,500	46,000	.011733	.001400			
11,750	47,000	.012267	.000534			
12,000	48,000	.012900	.000633			
12,250	49,000	.014000	.001100			
12,500	50,000	.015367	.001367			
12,750	51,000	.016667	.001300			
13,000	52,000	.018167	.001500			
13,250	53,000	.019333	.001166			
13,500	54,000	.020333	.001000			
13,750	55,000	.021500	.001167			
14,000	56,000	.023000	.001500			
14,250	57,000	.024867	.001867			
14,500	58,000	.026367	.001500			
14,750	59,000	.027733	.001366			
15,000	60,000	.030000	.002267			
15,500	62,000	.034000	.004000			
16,000	64,000	.038333	.004333			
16,500	66,000	.043333	.005000			
17,000	68,000	.049167	.005834			
17,500	70,000	.056667	.007500			
18,000	72,000	.065000	.008333			
18,500	74,000	.0767	.0117			
19,000	76,000	.0967	.0200			
19,500	78,000	.1400	.0433			
19,520	78,080	.1600	.0200			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds...
Elastic limit per square inch of original section	do...
Elongation per inch after rupture	inch...
Elongation per inch under strain at elastic limit	do...
Reduction in diameter at point of rupture	do...
Reduction in area after rupture, per centum of original section	
Position of rupture	″.80 from
Character of broken surface	
Elongation of inch sections	″.43 ″.17.

No. 2157.

Marks, $\overset{8\ T_{84}}{M\ T_3\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	Elastic limit.
10,000	40,000	.001433	.000133	.....	.....	
10,250	41,000	.009867	.008434	.....	.....	
10,500	42,000	.011033	.001166	.....	.....	
10,750	43,000	.012000	.000967	.....	.....	
11,000	44,000	.013000	.001000	.....	.....	
11,250	45,000	.014000	.001000	.....	.....	
11,500	46,000	.015000	.001000	.....	.....	
11,750	47,000	.016100	.001100	.....	.....	
12,000	48,000	.017400	.001300	.....	.....	
12,250	49,000	.018600	.001200	.....	.....	
12,500	50,000	.019933	.001333	.....	.....	
13,000	52,000	.022333	.002400	.....	.....	
13,500	54,000	.025667	.003334	.....	.....	
14,000	56,000	.028667	.003000	.....	.....	
14,500	58,000	.032333	.003666	.....	.....	
15,000	60,000	.036333	.004000	.....	.....	
15,500	62,000	.040833	.004500	.....	.....	
16,000	64,000	.046333	.005500	.....	.....	
16,500	66,000	.054000	.007667	.....	.....	
17,000	68,000	.062000	.008000	.....	.....	
17,500	70,000	.0700	.0080	.....	.....	
18,000	72,000	.0833	.0133	.....	.....	
18,500	74,000	.1000	.0167	.....	.....	
19,000	76,000	.1267	.0267	.....	.....	
19,100	76,400	.1600	.0333	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,400
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.1767
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.07+
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		".05 from middle of stem
Character of broken surface granular; dull spot at circumference; opened cracks in surface of stem		
Elongation of inch sections		".13, ".26*, ".14

NEW TUBE No. 44.

No. 2723.

Marks, $\frac{8\,Cn\,R_{44}\,T}{B\,T_4\,I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load
1,250	5,000	.000033	.000033	0.	.....	
2,500	10,000	.000267	.000234	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000733	.000133	0.	.....	
7,500	30,000	.000933	.000200	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001300	.000067	.....	.....	
10,250	41,000	.001400	.000100	.....	.....	Elastic limit.
10,500	42,000	.001633	.000233	.....	.....	
10,750	43,000	.001900	.000267	.....	.....	
11,000	44,000	.002233	.000333	.....	.....	
11,250	45,000	.005933	.003700	.....	.....	
11,500	46,000	.006533	.000600	.....	.....	
12,000	48,000	.009000	.002467	.....	.....	
12,500	50,000	.011267	.002267	.....	.....	
13,000	52,000	.013267	.002000	.....	.....	
13,500	54,000	.016000	.002733	.....	.....	
14,000	56,000	.018233	.002233	.....	.....	
14,500	58,000	.021267	.003034	.....	.....	
15,000	60,000	.024400	.003133	.....	.....	
15,500	62,000	.027700	.003300	.....	.....	
16,000	64,000	.031333	.003633	.....	.....	
16,500	66,000	.035500	.004167	.....	.....	
17,000	68,000	.0400	.0045	.....	.....	
17,500	70,000	.0467	.0067	.....	.....	
18,000	72,000	.0567	.0100	.....	.....	
18,500	74,000	.0633	.0066	.....	.....	
19,000	76,000	.0733	.0100	.....	.....	
19,500	78,000	.0967	.0234	.....	.....	
20,000	80,000	.1367	.0400	.....	.....	
20,250	81,000	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,000
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		32.8
Position of rupture		".65 from [illegible]
Character of broken surface		silky
Elongation of inch sections		".12, ".13, ".67

No. 2724.

Marks, $\frac{8\ Cn\ R_{44}\ T}{B\ T_3\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.		
2,500	10,000	.000267	.000167	0.		
3,750	15,000	.000433	.000166	0.		
5,000	20,000	.000600	.000167	0.		
6,250	25,000	.000767	.000167	0.		
7,500	30,000	.000933	.000166	0.		
8,750	35,000	.001200	.000267	0.		
9,000	36,000	.001233	.000033			
9,250	37,000	.001267	.000034			
9,500	38,000	.001300	.000033			
9,750	39,000	.001300	0.			
10,000	40,000	.001333	.000033			
10,250	41,000	.001367	.000034			Elastic limit.
10,500	42,000	.001667	.000300			
10,750	43,000	.001800	.000133			
11,000	44,000	.001900	.000100			
11,250	45,000	.003067	.001167			
11,500	46,000	.004000	.000933			
12,000	48,000	.007067	.003067			
12,500	50,000	.009367	.002300			
13,000	52,000	.011567	.002200			
13,500	54,000	.013667	.002100			
14,000	56,000	.015667	.002000			
14,500	58,000	.018433	.002766			
15,000	60,000	.020833	.002400			
15,500	62,000	.023733	.002900			
16,000	64,000	.027233	.003500			
16,500	66,000	.030167	.002934			
17,000	68,000	.034500	.004333			
17,500	70,000	.0367	.0022			
18,000	72,000	.0400	.0033			
18,500	74,000	.0500	.0100			
19,000	76,000	.0600	.0100			
19,500	78,000	.0700	.0100			
20,000	80,000	.0900	.0200			
20,500	82,000	.1367	.0467			
20,750	83,000					Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,000
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2233
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″.25 from neck
Character of broken surface		silky
Elongation of inch sections		″.10, ″.28, ″.29*

No. 2725.

Marks, $\frac{8\ Cn\ R_{44}\ T}{B\ T_6\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000600	.000200	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001233	.000133	.....	.....	
9,250	37,000	.001267	.000034	.....	.....	
9,500	38,000	.001267	0.	.....	.....	
9,750	39,000	.001333	.000066	.....	.....	
10,000	40,000	.001367	.000034	.....	.....	
10,250	41,000	.001400	.000033	.....	.....	Elastic limit.
10,500	42,000	.007233	.005833	.....	.....	
10,750	43,000	.008033	.000800	.....	.....	
11,000	44,000	.009033	.001000	.....	.....	
11,500	46,000	.011133	.002100	.....	.....	
12,000	48,000	.013667	.002534	.....	.....	
12,500	50,000	.016133	.002466	.....	.....	
13,000	52,000	.018667	.002534	.....	.....	
13,500	54,000	.021867	.003200	.....	.....	
14,000	56,000	.025000	.003133	.....	.....	
14,500	58,000	.028400	.003400	.....	.....	
15,000	60,000	.033167	.004767	.....	.....	
15,500	62,000	.036667	.003500	.....	.....	
16,000	64,000	.040000	.003333	.....	.....	
16,500	66,000	.0467	.0067	.....	.....	
17,000	68,000	.0600	.0133	.....	.....	
17,500	70,000	.0667	.0067	.....	.....	
18,000	72,000	.0800	.0133	.....	.....	
18,500	74,000	.1000	.0200	.....	.....	
19,000	76,000	.1333	.0333	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,000
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.256
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.171
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		1″.23 from neck; oblique
Character of broken surface		silky
Elongation of inch sections		″.14, ″.31, ″.32

No. 2726.

Marks, $\frac{8\ Cn\ R_{44}\ T}{M\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000533	.000133	0.	.....	
6,250	25,000	.000733	.000200	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001133	.000066	.....	.....	
9,250	37,000	.001200	.000067	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001300	.000033	.....	.....	
10,250	41,000	.001367	.000067	.....	.....	
10,500	42,000	.001433	.000066	.....	.....	Elastic limit.
10,750	43,000	.003167	.001734	.....	.....	
11,000	44,000	.005167	.002000	.....	.....	
11,250	45,000	.006167	.001000	.....	.....	
11,500	46,000	.007067	.000900	.....	.....	
12,000	48,000	.009500	.002433	.....	.....	
12,500	50,000	.011733	.002233	.....	.....	
13,000	52,000	.013900	.002167	.....	.....	
13,500	54,000	.016133	.002233	.....	.....	
14,000	56,000	.019000	.002867	.....	.....	
14,500	58,000	.021633	.002633	.....	.....	
15,000	60,000	.024667	.003034	.....	.....	
15,500	62,000	.028700	.004033	.....	.....	
16,000	64,000	.031367	.002667	.....	.....	
16,500	66,000	.035833	.004466	.....	.....	
17,000	68,000	.038333	.002500	.....	.....	
17,500	70,000	.0433	.004967	.....	.....	
18,000	72,000	.0567	.0134	.....	.....	
18,500	74,000	.0633	.0066	.....	.....	
19,000	76,000	.0733	.0100	.....	.....	
19,500	78,000	.1000	.2267	.....	.....	
20,000	80,000	.1567	.056	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,000
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.01433
Reduction in diameter at point of rupture	do ..	.104
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		".80 from neck
Character of broken surface	granular; with flaky streak	
Elongation of inch sections		".29*, ".19, ".15

No. 2727.

Marks, $^{8\,Cn\,R_{44}\,T}_{M\,T_5\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	.....	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001200	.000067	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001267	.000034	.....	.....	
10,250	41,000	.001333	.000066	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	Elastic limit.
11,000	44,000	.001600	.000200	.....	.....	
11,250	45,000	.003033	.001433	.....	.....	
11,500	46,000	.004700	.001667	.....	.....	
12,000	48,000	.007133	.002433	.....	.....	
12,500	50,000	.009333	.002200	.....	.....	
13,000	52,000	.011567	.002234	.....	.....	
13,500	54,000	.013767	.002200	.....	.....	
14,000	56,000	.015933	.002166	.....	.....	
14,500	58,000	.018533	.002600	.....	.....	
15,000	60,000	.021167	.002634	.....	.....	
15,500	62,000	.024433	.003266	.....	.....	
16,000	64,000	.027467	.003034	.....	.....	
16,500	66,000	.031333	.003866	.....	.....	
17,000	68,000	.035233	.003900	.....	.....	
17,500	70,000	.0367	.001467	.....	.....	
18,000	72,000	.0433	.0066	.....	.....	
18,500	74,000	.0533	.0100	.....	.....	
19,000	76,000	.0633	.0100	.....	.....	
19,500	78,000	.0767	.0134	.....	.....	
20,000	80,000	.0967	.0200	.....	.....	
20,250	81,000	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,000
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.1433
Elongation per inch under strain at elastic limit	do...	.00143
Reduction in diameter at point of rupture	do...	.054
Reduction in area after rupture, per centum of original section		18.3
Position of rupture		1 inch from neck
Character of broken surface		granular; flaky streak
Elongation of inch sections		″.11, ″.24, ″.18

No. 2728.

Marks, $\frac{8\ Cn\ R_{44}\ T}{M\ T_6\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

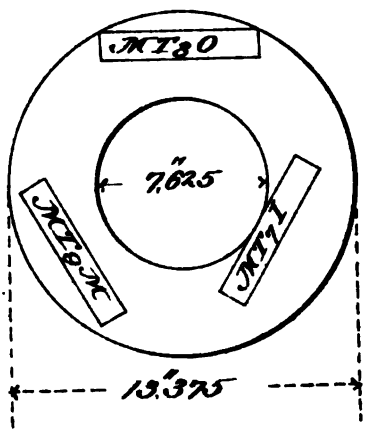
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001300	.000067	.....	.....	
9,750	39,000	.001367	.000067	.....	.....	
10,000	40,000	.001400	.000033	.....	.....	
10,250	41,000	.001467	.000067	.....	.....	Elastic limit.
10,500	42,000	.001667	.000200	.....	.....	
10,750	43,000	.004333	.002666	.....	.....	
11,000	44,000	.005267	.000934	.....	.....	
11,500	46,000	.007533	.002266	.....	.....	
12,000	48,000	.009567	.002034	.....	.....	
12,500	50,000	.012067	.002500	.....	.....	
13,000	52,000	.013900	.001833	.....	.....	
13,500	54,000	.016333	.002433	.....	.....	
14,000	56,000	.018667	.002334	.....	.....	
14,500	58,000	.021567	.002900	.....	.....	
15,000	60,000	.024600	.003033	.....	.....	
15,500	62,000	.027633	.003033	.....	.....	
16,000	64,000	.031333	.003700	.....	.....	
16,500	66,000	.035400	.004067	.....	.....	
17,000	68,000	.038333	.002933	.....	.....	
17,500	70,000	.0433	.004967	.....	.....	
18,000	72,000	.0533	.0100	.....	.....	
18,500	74,000	.0633	.0100	.....	.....	
19,000	76,000	.0700	.0067	.....	.....	
19,500	7-,000	.0933	.0233	.....	.....	
20,000	80,000	.1267	.0334	.....	.....	
20,300	81,200	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,200
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1". 28 from neck
Character of broken surface		silky
Elongation of inch sections		".25, ".30*, ".15

New Tube No. 44 8" converted Rifle

Additional specimens



H Ex 31 492

No. 2768.

Marks, $^{8\ Cn\ R_{44}\ T}_{M\ T_r\ 1}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000300	.000133	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001167	.000200	.....	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001333	.000066	.....	.....	
10,000	40,000	.001367	.000034	.....	.....	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001500	.000100	.....	.....	Elastic limit.
10,750	43,000	.001833	.000333	.....	.....	
11,000	44,000	.004500	.002667	.....	.....	
11,250	45,000	.007000	.002500	.....	.....	
11,500	46,000	.007600	.000600	.....	.....	
11,750	47,000	.008200	.000600	.....	.....	
12,000	48,000	.009367	.001167	.....	.....	
12,250	49,000	.010333	.000966	.....	.....	
12,500	50,000	.011533	.001200	.....	.....	
13,000	52,000	.013567	.002034	.....	.....	
13,500	54,000	.016033	.002466	.....	.....	
14,000	56,000	.018667	.002634	.....	.....	
14,500	58,000	.021167	.002500	.....	.....	
15,000	60,000	.024033	.002866	.....	.....	
15,500	62,000	.027233	.003200	.....	.....	
16,000	64,000	.031000	.003767	.....	.....	
16,500	66,000	.036167	.005167	.....	.....	
17,000	68,000	.040833	.004666	.....	.....	
17,500	70,000	.0467	.005867	.....	.....	
18,000	72,000	.0533	.0066	.....	.....	
18,500	74,000	.0633	.0100	.....	.....	
19,000	76,000	.0700	.0067	.....	.....	
19,500	78,000	.0900	.0200	.....	.....	
20,000	80,000	.1267	.0367	.....	.....	
20,020	80,080	.1333	.0066	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,080
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.1567
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		"33 from neck
Character of broken surface		granular; radiating from a flaky spot at circumference
Elongation of inch sections		"13, ".13, ".21*

No. 2769.

Marks, $\frac{8\,C_3\,R_{44}\,T}{M\,T_8\,O}$
Diameter ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	
10,000	40,000	.001333	.000033	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001467	.000067	.....	.....	
11,000	44,000	.001567	.000100	.....	.....	Elastic limit.
11,250	45,000	.001767	.000200	.....	.....	
11,500	46,000	.004667	.002900	.....	.....	
11,750	47,000	.006167	.001500	.....	.....	
12,000	48,000	.007000	.000833	.....	.....	
12,250	49,000	.008167	.001167	.....	.....	
12,500	50,000	.009533	.001366	.....	.....	
13,000	52,000	.011333	.001800	.....	.....	
13,500	54,000	.013600	.002267	.....	.....	
14,000	56,000	.016000	.002400	.....	.....	
14,500	58,000	.018667	.002667	.....	.....	
15,000	60,000	.021167	.002500	.....	.....	
15,500	62,000	.024167	.003000	.....	.....	
16,000	64,000	.027167	.003000	.....	.....	
16,500	66,000	.030667	.003500	.....	.....	
17,000	68,000	.034667	.004000	.....	.....	
17,500	70,000	.039000	.004333	.....	.....	
18,000	72,000	.0467	.0077	.....	.....	
18,500	74,000	.0533	.0066	.....	.....	
19,000	76,000	.0600	.0067	.....	.....	
19,500	78,000	.0700	.0100	.....	.....	
20,000	80,000	.0933	.0233	.....	.....	
20,500	82,000	.1333	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength, per square inch of original section	pounds..	82,000
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.2933
Elongation per inch under strain at elastic limit	do...	.001567
Reduction in diameter at point of rupture	do...	.084
Reduction in area after rupture, per centum of original section		29.6
Position of rupture	".65 from neck;	oblique
Character of broken surface		silky
Elongation of inch sections	".13, ".18, ".20	

No. 2770.

Marks, $\frac{8\ C.\ R.\ T}{M\ T.\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000200	.000200	0.	.....	
2,500	10,000	.000367	.000167	0.	.....	
3,750	15,000	.000533	.000166	0.	.....	
5,000	20,000	.000700	.000167	0.	.....	
6,250	25,000	.000867	.000167	0.	.....	
7,500	30,000	.001033	.000166	0.	.....	
8,750	35,000	.001200	.000167	.....	.....	
9,000	36,000	.001233	.000033	.....	.....	
9,250	37,000	.001267	.000034	.....	.....	
9,500	38,000	.001333	.000066	.....	.....	
9,750	39,000	.001367	.000034	.....	.....	
10,000	40,000	.001433	.000066	.....	.....	
10,250	41,000	.001467	.000034	.....	.....	
10,500	42,000	.001533	.000066	.....	.....	Elastic limit.
10,750	43,000	.001700	.000167	.....	.....	
11,000	44,000	.005500	.003800	.....	.....	
11,250	45,000	.006067	.000567	.....	.....	
11,500	46,000	.007100	.001033	.....	.....	
11,750	47,000	.008067	.000967	.....	.....	
12,000	48,000	.009167	.001100	.....	.....	
12,250	49,000	.010033	.000866	.....	.....	
12,500	50,000	.011200	.001167	.....	.....	
13,000	52,000	.013500	.002300	.....	.....	
13,500	54,000	.015667	.002167	.....	.....	
14,000	56,000	.018167	.002500	.....	.....	
14,500	58,000	.021000	.002833	.....	.....	
15,000	60,000	.023500	.002500	.....	.....	
15,500	62,000	.026667	.003167	.....	.....	
16,000	64,000	.029667	.003000	.....	.....	
16,500	66,000	.033333	.003666	.....	.....	
17,000	68,000	.037667	.004334	.....	.....	
17,500	70,000	.0409	.002333	.....	.....	
18,000	72,000	.0467	.0067	.....	.....	
18,500	74,000	.0567	.0100	.....	.....	
19,000	76,000	.0667	.0100	.....	.....	
19,500	78,000	.0800	.0133	.....	.....	
20,000	80,000	.1067	.0267	.....	.....	
20,160	80,640	.1400	.0333	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,640
Elastic limit per square inch of original section	do....	42,000
Elongation per inch after rupture	inch..	0.2167
Elongation per inch under strain at elastic limit	do....	.001533
Reduction in diameter at point of rupture	do....	.104
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″.35 from neck
Character of broken surface		silky
Elongation of inch sections		″.11, ″.30, ″.24

No. 2104.

Marks, $\frac{S\ T_{es}}{B\ T;\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001000	.000200	0.	.....	
8,750	35,000	.001133	.000133	0.	.....	
10,000	40,000	.001267	.000234	.000067	.000067	Elastic limit.
10,250	41,000	.001500	.000133	.....	.....	
10,500	42,000	.004733	.003233	.....	.....	
10,750	43,000	.006767	.002034	.....	.....	
11,000	44,000	.007700	.000933	.....	.....	
11,250	45,000	.009000	.001300	.....	.....	
11,500	46,000	.010133	.001133	.....	.....	
11,750	47,000	.011167	.001034	.....	.....	
12,000	48,000	.012500	.001333	.....	.....	
12,250	49,000	.013667	.001167	.....	.....	
12,500	50,000	.015067	.001400	.....	.....	
12,750	51,000	.016333	.001266	.....	.....	
13,000	52,000	.017833	.001500	.....	.....	
13,250	53,000	.019200	.001367	.....	.....	
13,500	54,000	.020700	.001500	.....	.....	
13,750	55,000	.022333	.001633	.....	.....	
14,000	56,000	.024333	.002000	.....	.....	
14,250	57,000	.025667	.001334	.....	.....	
14,500	58,000	.028067	.002400	.....	.....	
14,750	59,000	.030167	.002100	.....	.....	
15,000	60,000	.032500	.002333	.....	.....	
15,500	62,000	.036900	.004400	.....	.....	
16,000	64,000	.042333	.005433	.....	.....	
16,500	66,000	.048333	.006000	.....	.....	
17,000	68,000	.057667	.009334	.....	.....	
17,500	70,000	.070000	.012333	.....	.....	
18,000	72,000	.0900	.0200	.....	.....	
18,500	74,000	.1300	.0400	.....	.....	
18,510	74,040	.1667	.0367	.....	.....	Tensile strength.

General summary.

Specific gravity	7.8583
Hardness	12.42
Tensile strength per square inch of original section ..... pounds	74,040
Elastic limit per square inch of original section ..... do	40,000
Elongation per inch after rupture ..... inch	0.2700
Elongation per inch under strain at elastic limit ..... do	.001267
Reduction in diameter at point of rupture ..... do	.104
Reduction in area after rupture, per centum of original section	44.6
Position of rupture	".60 from middle of stem
Character of broken surface	silky; cracks opened in surface of stem
Elongation of inch sections	".36", ".26, ".17

No. 2105.

Marks, $\frac{8\ T_8}{B\ T_3\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.		
2,500	10,000	.000333	.000166	0.		
3,750	15,000	.000500	.000167	0.		
5,000	20,000	.000667	.000167	0.		
6,250	25,000	.000833	.000166	0.		
7,500	30,000	.001000	.000167	0.		
8,750	35,000	.001200	.000200	0.		
9,000	36,000	.001233	.000033			
9,250	37,000	.001267	.000034			
9,500	38,000	.001300	.000033			
9,750	39,000	.001333	.000033			
10,000	40,000	.001367	.000034	.000067	.000067	
10,250	41,000	.001400	.000033			Elastic limit.
10,500	42,000	.001567	.000167			
10,750	43,000	.001800	.000233			
11,000	44,000	.003000	.001200			
11,250	45,000	.005267	.002267			
11,500	46,000	.007333	.002066			
11,750	47,000	.008467	.001134			
12,000	48,000	.009667	.001200			
12,250	49,000	.010333	.000666			
12,500	50,000	.011333	.001000			
12,750	51,000	.012667	.001334			
13,000	52,000	.013767	.001100			
13,250	53,000	.014900	.001133			
13,500	54,000	.016533	.001633			
13,750	55,000	.018100	.001567			
14,000	56,000	.019500	.001400			
14,250	57,000	.020733	.001233			
14,500	58,000	.022700	.001967			
14,750	59,000	.024000	.001300			
15,000	60,000	.025667	.001667			
15,500	62,000	.030000	.004333			
16,000	64,000	.034667	.004667			
16,500	66,000	.039500	.004833			
17,000	68,000	.045333	.005833			
17,500	70,000	.053000	.007667			
18,000	72,000	.063167	.010167			
18,500	74,000	.078000	.014833			
19,000	76,000	.1133	.0353			
19,120	76,480	.1533	.0400			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,480
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2433
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		".10 from middle of stem
Character of broken surface		silky; cracks opened in surface of stem
Elongation of inch sections		".15, ".43*, ".15

No. 2106.

Marks, $\frac{8\ T_{45}}{B\ T_3\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001200	.000067	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	Elastic limit.
10,000	40,000	.001700	.000400	.....	.....	
10,250	41,000	.006900	.005200	.....	.....	
10,500	42,000	.008167	.001267	.....	.....	
10,750	43,000	.009500	.001333	.....	.....	
11,000	44,000	.010500	.001000	.....	.....	
11,250	45,000	.012067	.001567	.....	.....	
11,500	46,000	.013033	.000966	.....	.....	
11,750	47,000	.014133	.001100	.....	.....	
12,000	48,000	.015433	.001300	.....	.....	
12,250	49,000	.016833	.001400	.....	.....	
12,500	50,000	.018400	.001567	.....	.....	
12,750	51,000	.019833	.001433	.....	.....	
13,000	52,000	.021367	.001534	.....	.....	
13,250	53,000	.022833	.001466	.....	.....	
13,500	54,000	.024700	.001867	.....	.....	
13,750	55,000	.026333	.001633	.....	.....	
14,000	56,000	.028533	.002200	.....	.....	
14,250	57,000	.030167	.001634	.....	.....	
14,500	58,000	.032500	.002333	.....	.....	
14,750	59,000	.034733	.002233	.....	.....	
15,000	60,000	.037400	.002667	.....	.....	
15,500	62,000	.043667	.006267	.....	.....	
16,000	64,000	.050667	.007000	.....	.....	
16,500	66,000	.058833	.008166	.....	.....	
17,000	68,000	.070000	.011167	.....	.....	
17,500	70,000	.0933	.0233	.....	.....	
18,000	72,000	.1300	.0367	.....	.....	
18,090	72,360	.1700	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,3[illegible]
Elastic limit per square inch of original section	do...	39,[illegible]
Elongation per inch after rupture	inch..	0.2[illegible]
Elongation per inch under strain at elastic limit	do..	.001[illegible]
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		42.7
Position of rupture	½ inch from middle of stem	
Character of broken surface	silky; cracks opened in surface of stem	
Elongation of inch sections	″.22, ″.42, ″.[illegible]	

No. 2107.

Marks, $\frac{S\ T_{es}}{M\ T,\ I}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000700	.000200	.000033	.000033	
6,250	25,000	.000833	.000133	.000067	.000034	
7,500	30,000	.001033	.000200	.000067	0.	
8,750	35,000	.001133	.000100	.000067	0.	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	
10,000	40,000	.001333	.000033	.000067	0.	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001467	.000067	.....	.....	Elastic limit.
11,000	44,000	.001700	.000233	.....	.....	
11,250	45,000	.004100	.002400	.....	.....	
11,500	46,000	.006667	.002567	.....	.....	
11,750	47,000	.008000	.001333	.....	.....	
12,000	48,000	.009067	.001067	.....	.....	
12,250	49,000	.009733	.000666	.....	.....	
12,500	50,000	.010800	.001067	.....	.....	
12,750	51,000	.011800	.001000	.....	.....	
13,000	52,000	.013133	.001333	.....	.....	
13,250	53,000	.014267	.001134	.....	.....	
13,500	54,000	.015733	.001466	.....	.....	
13,750	55,000	.016700	.000967	.....	.....	
14,000	56,000	.018000	.001300	.....	.....	
14,250	57,000	.019500	.001500	.....	.....	
14,500	58,000	.020400	.000900	.....	.....	
14,750	59,000	.021767	.001367	.....	.....	
15,000	60,000	.023733	.001966	.....	.....	
15,500	62,000	.027067	.003334	.....	.....	
16,000	64,000	.030667	.003600	.....	.....	
16,500	66,000	.034700	.004033	.....	.....	
17,000	68,000	.039333	.004633	.....	.....	
17,500	70,000	.045000	.005667	.....	.....	
18,000	72,000	.051667	.006667	.....	.....	
18,500	74,000	.059000	.007333	.....	.....	
19,000	76,000	.0700	.0110	.....	.....	
19,500	78,000	.0933	.0233	.....	.....	
20,000	80,000	.1300	.0367	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,000
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2233
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		at middle of stem
Character of broken surface		silky
Elongation of inch sections		".18, ".36,* ".13

No. 2108.

Marks, $\frac{S\ T_{45}}{M\ T_{7}\ O}$
Diameter, $\frac{7}{16}$".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000433	.000100	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000133	.....	.....	
10,000	40,000	.001367	.000034	.000100	.000100	Elastic limit.
10,250	41,000	.004267	.002900	.....	.....	
10,500	42,000	.006500	.002233	.....	.....	
10,750	43,000	.008167	.001667	.....	.....	
11,000	44,000	.009667	.001500	.....	.....	
11,250	45,000	.010500	.000833	.....	.....	
11,500	46,000	.011500	.001000	.....	.....	
11,750	47,000	.012667	.001167	.....	.....	
12,000	48,000	.013767	.001100	.....	.....	
12,250	49,000	.014833	.001066	.....	.....	
12,500	50,000	.016333	.001500	.....	.....	
12,750	51,000	.017500	.001167	.....	.....	
13,000	52,000	.019000	.001500	.....	.....	
13,250	53,000	.020000	.001000	.....	.....	
13,500	54,000	.021500	.001500	.....	.....	
13,750	55,000	.022833	.001333	.....	.....	
14,000	56,000	.024667	.001834	.....	.....	
14,250	57,000	.026333	.001666	.....	.....	
14,500	58,000	.028200	.001867	.....	.....	
14,750	59,000	.029833	.001633	.....	.....	
15,000	60,000	.031867	.002034	.....	.....	
15,500	62,000	.036000	.004133	.....	.....	
16,000	64,000	.041667	.005667	.....	.....	
16,500	66,000	.047333	.005666	.....	.....	
17,000	68,000	.054167	.006834	.....	.....	
17,500	70,000	.063333	.009166	.....	.....	
18,000	72,000	.0767	.013367	.....	.....	
18,500	74,000	.0967	.0200	.....	.....	
18,970	75,880	.1533	.0566	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,880
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		".90 from neck
Character of broken surface		silky
Elongation of inch sections		".39", ".16, ".12

No. 2109.

Marks, $^{8\ Ts}_{M\ T,\ M}$
Diameter, $^{1}/_{}$".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001133	.000200	.000067	.000067	Elastic limit.
9,000	36,000	.001367	.000234	.....	.....	
		.004800	.003433	.....	.....	
9,250	37,000	.007067	.002267	.....	.....	
9,500	38,000	.008100	.001033	.....	.....	
9,750	39,000	.009000	.000900	.....	.....	
10,000	40,000	.010233	.001233	.....	.....	
10,250	41,000	.011000	.000767	.....	.....	
10,500	42,000	.012267	.001267	.....	.....	
10,750	43,000	.013500	.001233	.....	.....	
11,000	44,000	.014667	.001167	.....	.....	
11,250	45,000	.015667	.001000	.....	.....	
11,500	46,000	.017167	.001500	.....	.....	
11,750	47,000	.018333	.001166	.....	.....	
12,000	48,000	.019767	.001434	.....	.....	
12,250	49,000	.021000	.001233	.....	.....	
12,500	50,000	.022667	.001667	.....	.....	
12,750	51,000	.024033	.001366	.....	.....	
13,000	52,000	.026000	.001967	.....	.....	
13,250	53,000	.027333	.001333	.....	.....	
13,500	54,000	.029500	.002167	.....	.....	
13,750	55,000	.031167	.001667	.....	.....	
14,000	56,000	.033700	.002533	.....	.....	
14,250	57,000	.035500	.001800	.....	.....	
14,500	58,000	.038400	.002900	.....	.....	
14,750	59,000	.040700	.002300	.....	.....	
15,000	60,000	.043067	.002367	.....	.....	
15,500	62,000	.050000	.006933	.....	.....	
16,000	64,000	.057333	.007333	.....	.....	
16,500	66,000	.0667	.009367	.....	.....	
17,000	68,000	.0800	.0133	.....	.....	
17,500	70,000	.1000	.0200	.....	.....	
18,000	72,000	.1267	.0267	.....	.....	
18,210	72,840	.1800	.0533	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,840
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2467
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.104
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		½ inch from middle of stem
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".34", ".22, ".18

No. 2110.

Marks, $\frac{8\,T_{44}}{B\,T_1\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	
10,000	40,000	.001333	.000066	.000033	.000033	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001400	0.	.....	.....	
11,000	44,000	.001433	.000033	.....	.....	Elastic limit.
11,250	45,000	.004000	.002567	.....	.....	
11,500	46,000	.007333	.003333	.....	.....	
11,750	47,000	.009167	.001834	.....	.....	
12,000	48,000	.010267	.001100	.....	.....	
12,250	49,000	.011000	.000733	.....	.....	
12,500	50,000	.012367	.001367	.....	.....	
12,750	51,000	.013667	.001300	.....	.....	
13,000	52,000	.015000	.001333	.....	.....	
13,250	53,000	.016400	.001400	.....	.....	
13,500	54,000	.017833	.001433	.....	.....	
13,750	55,000	.019333	.001500	.....	.....	
14,000	56,000	.020833	.001500	.....	.....	
14,250	57,000	.022167	.001334	.....	.....	
14,500	58,000	.024333	.002166	.....	.....	
14,750	59,000	.026033	.001700	.....	.....	
15,000	60,000	.028200	.002167	.....	.....	
15,500	62,000	.032333	.004133	.....	.....	
16,000	64,000	.037167	.004834	.....	.....	
16,500	66,000	.044000	.006833	.....	.....	
17,000	68,000	.050000	.006000	.....	.....	
17,500	70,000	.058833	.008833	.....	.....	
18,000	72,000	.0700	.011167	.....	.....	
18,500	74,000	.0967	.0267	.....	.....	
18,920	75,680	.1600	.0633	.....	.....	Tensile strength.

General summary.

Specific gravity	7.[illegible]
Hardness	12.14
Tensile strength per square inch of original section ..... pounds	75,[illegible]
Elastic limit per square inch of original section ..... do	44,[illegible]
Elongation per inch after rupture ..... inch	0.2467
Elongation per inch under strain at elastic limit ..... do	.001433
Reduction in diameter at point of rupture ..... do	.194
Reduction in area after rupture, per centum of original section	57.0
Position of rupture	¾ inch from neck
Character of broken surface	silky
Elongation of inch sections	″.44″, ″.16″.14

No. 2111.

Marks, $\frac{8\ T_{88}}{B\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000300	.000133	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000567	.000100	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001133	.000066	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	
10,000	40,000	.001367	.000134	.000067	.000067	Elastic limit.
10,250	41,000	.005333	.003966	.....	.....	
10,500	42,000	.007333	.002000	.....	.....	
10,750	43,000	.008000	.000667	.....	.....	
11,000	44,000	.009000	.001000	.....	.....	
11,250	45,000	.010000	.001000	.....	.....	
11,500	46,000	.011233	.001233	.....	.....	
11,750	47,000	.012833	.001600	.....	.....	
12,000	48,000	.013733	.000900	.....	.....	
12,250	49,000	.015000	.001267	.....	.....	
12,500	50,000	.016167	.001167	.....	.....	
12,750	51,000	.017867	.001700	.....	.....	
13,000	52,000	.018667	.000800	.....	.....	
13,250	53,000	.020233	.001566	.....	.....	
13,500	54,000	.021667	.001434	.....	.....	
13,750	55,000	.023000	.001333	.....	.....	
14,000	56,000	.024667	.001667	.....	.....	
14,250	57,000	.027333	.002666	.....	.....	
14,500	58,000	.029500	.002167	.....	.....	
14,750	59,000	.031167	.001667	.....	.....	
15,000	60,000	.033167	.002000	.....	.....	
15,500	62,000	.037667	.004500	.....	.....	
16,000	64,000	.043167	.005500	.....	.....	
16,500	66,000	.050000	.006833	.....	.....	
17,000	68,000	.059000	.009000	.....	.....	
17,500	70,000	.070667	.011667	.....	.....	
18,000	72,000	.0967	.026033	.....	.....	
18,500	74,000	.1300	.0333	.....	.....	
18,690	74,760	.1633	.0333	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,760
Elastic limit per square inch of original section	do..	40,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		".45 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".21, ".42*, ".14

No. 2112.

Marks, $\frac{8\,T_4}{B\,T_3\,M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.		
2,500	10,000	.000333	.000166	0.		
3,750	15,000	.000500	.000167	0.		
5,000	20,000	.000667	.000167	0.		
6,250	25,000	.000833	.000166	0.		
7,500	30,000	.001000	.000167	0.		
8,750	35,000	.001167	.000167	0.		
9,000	36,000	.001200	.000033			
9,250	37,000	.001233	.000033			
9,500	38,000	.001267	.000034			
9,750	39,000	.001300	.000033			Elastic limit.
10,000	40,000	.001367	.000067			
		.004067	.002700			
10,250	41,000	.007067	.003000			
10,500	42,000	.008333	.001266			
10,750	43,000	.009933	.001600			
11,000	44,000	.010433	.001500			
11,250	45,000	.011367	.000934			
11,500	46,000	.012800	.001433			
11,750	47,000	.014000	.001200			
12,000	48,000	.015667	.001667			
12,250	49,000	.016733	.001066			
12,500	50,000	.018267	.001534			
12,750	51,000	.019667	.001400			
13,000	52,000	.021167	.001500			
13,250	53,000	.022667	.001500			
13,500	54,000	.024367	.001700			
13,750	55,000	.026333	.001966			
14,000	56,000	.028333	.002000			
14,250	57,000	.030233	.001900			
14,500	58,000	.032500	.002267			
14,750	59,000	.034733	.002233			
15,000	60,000	.037067	.002334			
15,500	62,000	.042667	.005600			
16,000	64,000	.049667	.007000			
16,500	66,000	.057833	.008166			
17,000	68,000	.0700	.012167			
17,500	70,000	.0908	.1200			
18,000	72,000	.1133	.1233			
18,260	73,040	.1667	.1534			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds...	73,040
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch...	.2700
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.196
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		".45", ".21, ".15

No. 2113.

Marks, $\frac{8\ T_{46}}{M\ T_1\ I}$
Diameter, ″.565,
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001033	.000133	0.	.....	
9,000	36,000	.001067	.000034	.....	.....	
9,250	37,000	.001067	0.	.....	.....	
9,500	38,000	.001100	.000033	.....	.....	
9,750	39,000	.001133	.000033	.....	.....	
10,000	40,000	.001200	.000067	0.	.....	
10,250	41,000	.001233	.000033	.....	.....	
10,500	42,000	.001267	.000034	.....	.....	
10,750	43,000	.001300	.000033	.....	.....	
11,000	44,000	.001367	.000067	.....	.....	
11,250	45,000	.001433	.000066	.....	.....	Elastic limit.
11,500	46,000	.002033	.000600	.....	.....	
11,750	47,000	.003433	.001400	.....	.....	
12,000	48,000	.004833	.001400	.....	.....	
12,250	49,000	.005833	.001000	.....	.....	
12,500	50,000	.007100	.001267	.....	.....	
12,750	51,000	.008167	.001067	.....	.....	
13,000	52,000	.009367	.001200	.....	.....	
13,250	53,000	.010133	.000766	.....	.....	
13,500	54,000	.011200	.001067	.....	.....	
13,750	55,000	.012233	.001033	.....	.....	
14,000	56,000	.013567	.001334	.....	.....	
14,250	57,000	.014933	.001366	.....	.....	
14,500	58,000	.016333	.001400	.....	.....	
14,750	59,000	.017333	.001000	.....	.....	
15,000	60,000	.018700	.001367	.....	.....	
15,500	62,000	.021033	.002333	.....	.....	
16,000	64,000	.024000	.002967	.....	.....	
16,500	66,000	.027333	.003333	.....	.....	
17,000	68,000	.030933	.003600	.....	.....	
17,500	70,000	.035167	.004234	.....	.....	
18,000	72,000	.039000	.003833	.....	.....	
18,500	74,000	.044833	.005833	.....	.....	
19,000	76,000	.051667	.006834	.....	.....	
19,500	78,000	.060000	.008333	.....	.....	
20,000	80,000	.072500	.012500	.....	.....	
20,500	82,000	.1000	.0275	.....	.....	
20,710	82,840	.1433	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,840
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.1967
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		½ inch from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.35*, ″.13, ″.11

No. 2114.

Marks, $\frac{8\ Tes}{M\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001133	.000133	0.	.....	
10,000	40,000	.001333	.000200	.000033	.000033	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001467	.000067	.....	.....	Elastic limit.
11,000	44,000	.002833	.001366	.....	.....	
11,250	45,000	.004500	.000667	.....	.....	
11,500	46,000	.006000	.001500	.....	.....	
11,750	47,000	.007233	.001233	.....	.....	
12,000	48,000	.008200	.001967	.....	.....	
12,250	49,000	.008867	.001667	.....	.....	
12,500	50,000	.010000	.001133	.....	.....	
12,750	51,000	.011333	.001333	.....	.....	
13,000	52,000	.012500	.001167	.....	.....	
13,250	53,000	.013433	.000933	.....	.....	
13,500	54,000	.014700	.001267	.....	.....	
13,750	55,000	.015767	.001067	.....	.....	
14,000	56,000	.017167	.001400	.....	.....	
14,250	57,000	.018300	.001133	.....	.....	
14,500	58,000	.019500	.001200	.....	.....	
14,750	59,000	.021133	.001633	.....	.....	
15,000	60,000	.022833	.001700	.....	.....	
15,500	62,000	.025500	.002667	.....	.....	
16,000	64,000	.028767	.003267	.....	.....	
16,500	66,000	.032833	.004066	.....	.....	
17,000	68,000	.036867	.004034	.....	.....	
17,500	70,000	.041833	.004966	.....	.....	
18,000	72,000	.048167	.006334	.....	.....	
18,500	74,000	.059333	.011166	.....	.....	
19,000	76,000	.065000	.005667	.....	.....	
19,500	78,000	.078000	.013000	.....	.....	
20,000	80,000	.1060	.0220	.....	.....	
20,300	81,200	.1400	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	81,2[illegible]
Elastic limit per square inch of original section	do	43,[illegible]
Elongation per inch after rupture	inch	0.[illegible]
Elongation per inch under strain at elastic limit	do	.001[illegible]
Reduction in diameter at point of rupture	do	.07[illegible]
Reduction in area after rupture, per centum of original section		24.[illegible]
Position of rupture		".45 from middle of [illegible]
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		".14, ".25", ".21

No. 2115.

Marks, $^{8\ T_{42}}_{M\ T_2\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

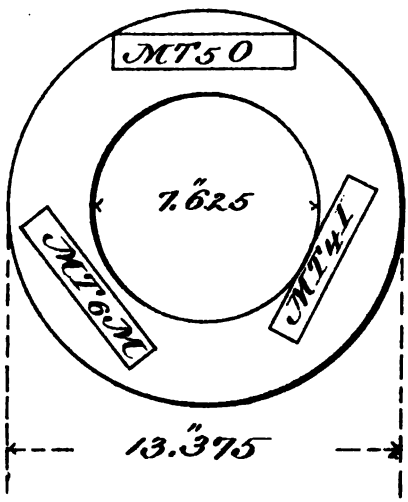
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	—.000033	—.000033	
2,500	10,000	.000200	.000133	—.000033	0.	
3,750	15,000	.000367	.000167	—.000033	0.	
5,000	20,000	.000533	.000166	—.000033	0.	
6,250	25,000	.000700	.000167	—.000033	0.	
7,500	30,000	.000867	.000167	—.000033	0.	
8,750	35,000	.001033	.000166	—.000033	0.	
10,000	40,000	.001200	.000167	—.000000	0.000033	Elastic limit.
10,250	41,000	.001867	.000667	.....	.....	
10,500	42,000	.003267	.001400	.....	.....	
10,750	43,000	.005133	.001866	.....	.....	
11,000	44,000	.007100	.001967	.....	.....	
11,250	45,000	.008000	.000900	.....	.....	
11,500	46,000	.008933	.000933	.....	.....	
11,750	47,000	.009833	.000900	.....	.....	
12,000	48,000	.010700	.000867	.....	.....	
12,250	49,000	.011800	.001100	.....	.....	
12,500	50,000	.013467	.001667	.....	.....	
12,750	51,000	.014033	.000566	.....	.....	
13,000	52,000	.015100	.001067	.....	.....	
13,250	53,000	.016533	.001433	.....	.....	
13,500	54,000	.017667	.001134	.....	.....	
13,750	55,000	.019000	.001333	.....	.....	
14,000	56,000	.020400	.001400	.....	.....	
14,250	57,000	.021767	.001367	.....	.....	
14,500	58,000	.023500	.001733	.....	.....	
14,750	59,000	.024833	.001333	.....	.....	
15,000	60,000	.026667	.001834	.....	.....	
15,500	62,000	.030233	.003566	.....	.....	
16,000	64,000	.034033	.003800	.....	.....	
16,500	66,000	.038467	.004434	.....	.....	
17,000	68,000	.043733	.005266	.....	.....	
17,500	70,000	.050000	.006267	.....	.....	
18,000	72,000	.058333	.008333	.....	.....	
18,500	74,000	.068333	.010000	.....	.....	
19,000	76,000	.0933	.024967	.....	.....	
19,500	78,000	.1233	.0300	.....	.....	
19,670	78,680	.1667	.0434	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,680
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001200
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		1″.05 from neck
Character of broken surface		silky
Elongation of inch sections		″.38*, ″.20, ″.13

Tube No. 46 8" converted Rifle

Additional specimens



H Ex 31 49 2

No. 2356.

Marks, $\frac{S\ T_{46}}{M\ T_4\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000767	.000134	0.	.....	
7,500	30,000	.000967	.000200	.000033	.000033	
8,750	35,000	.001133	.000166	.000033	0.	
10,000	40,000	.001333	.000200	.000067	.000034	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	Elastic limit.
11,000	44,000	.001567	.000134	.....	.....	
11,250	45,000	.002500	.000933	.....	.....	
11,500	46,000	.004100	.001600	.....	.....	
11,750	47,000	.006000	.001900	.....	.....	
12,000	48,000	.007367	.001367	.....	.....	
12,250	49,000	.008167	.000800	.....	.....	
12,500	50,000	.009500	.001333	.....	.....	
13,000	52,000	.011667	.002167	.....	.....	
13,500	54,000	.014000	.002333	.....	.....	
14,000	56,000	.016667	.002667	.....	.....	
14,500	58,000	.019333	.002666	.....	.....	
15,000	60,000	.022167	.002834	.....	.....	
15,500	62,000	.025067	.002900	.....	.....	
16,000	64,000	.028600	.003533	.....	.....	
16,500	66,000	.032333	.003733	.....	.....	
17,000	68,000	.036667	.004334	.....	.....	
17,500	70,000	.042167	.005500	.....	.....	
18,000	72,000	.049333	.007166	.....	.....	
18,500	74,000	.056667	.007334	.....	.....	
19,000	76,000	.070000	.013333	.....	.....	
19,500	78,000	.083333	.013333	.....	.....	
20,000	80,000	.1100	.026667	.....	.....	
20,200	80,800	.1600	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,800
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		1".40 from neck
Character of broken surface		silky
Elongation of inch sections		".25, ".36", ".16

No. 2357.

Marks, $\overset{S\ T\ es}{M\ Ts\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000433	.000200	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001233	.000133	0.	.....	
10,250	41,000	.001300	.000067	.....	.....	
10,500	42,000	.001333	.000033	.....	.....	Elastic limit.
10,750	43,000	.001500	.000167	.....	.....	
11,000	44,000	.004667	.003167	.....	.....	
11,250	45,000	.005467	.000800	.....	.....	
11,500	46,000	.006667	.001200	.....	.....	
11,750	47,000	.007700	.001033	.....	.....	
12,000	48,000	.008700	.001000	.....	.....	
12,250	49,000	.009667	.000967	.....	.....	
12,500	50,000	.010667	.001000	.....	.....	
13,000	52,000	.012667	.002000	.....	.....	
13,500	54,000	.014967	.002300	.....	.....	
14,000	56,000	.017533	.002566	.....	.....	
14,500	58,000	.020167	.002634	.....	.....	
15,000	60,000	.023167	.003000	.....	.....	
15,500	62,000	.026000	.002833	.....	.....	
16,000	64,000	.029333	.003333	.....	.....	
16,500	66,000	.033167	.003834	.....	.....	
17,000	68,000	.037167	.004000	.....	.....	
17,500	70,000	.042267	.005100	.....	.....	
18,000	72,000	.048333	.006066	.....	.....	
18,500	74,000	.054867	.006534	.....	.....	
19,000	76,000	.063333	.008466	.....	.....	
19,500	78,000	.0767	.013367	.....	.....	
20,000	80,000	.1000	.0233	.....	.....	
20,400	81,600	.1667	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,600
Elastic limit per square inch of original section	do...	42,000
Elongation per inch after rupture	inch..	0.1667
Elongation per inch under strain at elastic limit	do...	.000133
Reduction in diameter at point of rupture	do...	.094
Reduction in area after rupture, per centum of original section		27.6
Position of rupture		1 ″.4 from neck
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.12 ″.29 ″.12

No. 2358.

Marks, $\frac{8\ T_{66}}{M\ T_6\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

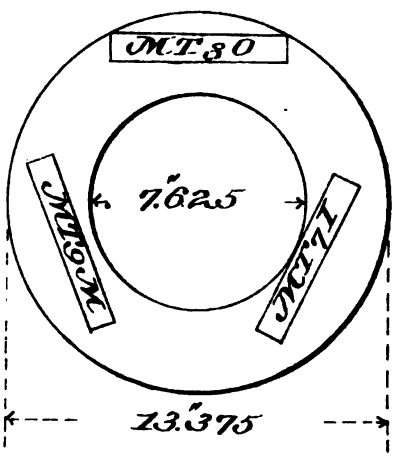
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
10,000	40,000	.001333	.000166	0.	.....	
10,250	41,000	.001367	.000034	.....	.....	Elastic limit.
10,500	42,000	.001500	.000133	.....	.....	
10,750	43,000	.002233	.000733	.....	.....	
11,000	44,000	.003667	.001434	.....	.....	
11,250	45,000	.005600	.001933	.....	.....	
11,500	46,000	.007000	.001400	.....	.....	
11,750	47,000	.008000	.001000	.....	.....	
12,000	48,000	.008667	.000667	.....	.....	
12,250	49,000	.009667	.001000	.....	.....	
12,500	50,000	.010433	.000766	.....	.....	
13,000	52,000	.012833	.002400	.....	.....	
13,500	54,000	.015167	.002334	.....	.....	
14,000	56,000	.017833	.002666	.....	.....	
14,500	58,000	.020400	.002567	.....	.....	
15,000	60,000	.023067	.002667	.....	.....	
15,500	62,000	.025833	.002766	.....	.....	
16,000	64,000	.029167	.003334	.....	.....	
16,500	66,000	.033000	.003833	.....	.....	
17,000	68,000	.037500	.004500	.....	.....	
17,500	70,000	.042667	.005167	.....	.....	
18,000	72,000	.048000	.005333	.....	.....	
18,500	74,000	.055833	.007833	.....	.....	
19,000	76,000	.065000	.009167	.....	.....	
19,500	78,000	.0800	.0150	.....	.....	
20,000	80,000	.1067	.0267	.....	.....	
20,260	81,040	.1533	.0466	.....	.....	Tensile strength.

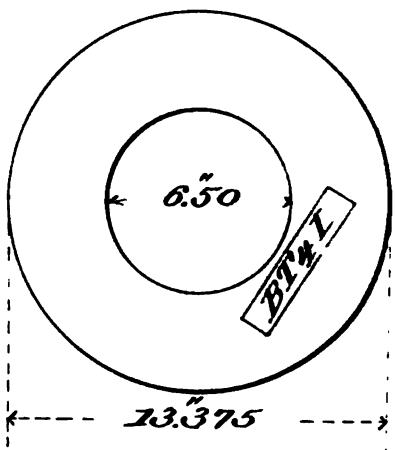
General summary.

Tensile strength per square inch of original section	pounds..	81,040
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.1967
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.074
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		1″.23 from neck
Character of broken surface, granular; flaky line of dull-colored metal; opened cracks in surface of stem.		
Elongation of inch sections		″.22, ″.22*, ″.15

Tube No. 46 8" converted Rifle

Additional specimens





H Ex 31 492

No. 2434.

Marks, $\frac{8\ T_{66}}{B\ T_4\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000200	.000100	0.	.....	
3,750	15,000	.000367	.000167	0.	.....	
5,000	20,000	.000567	.000200	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001267	.000200	.....	.....	
10,250	41,000	.001333	.000066	.....	.....	
10,500	42,000	.001400	.000067	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	Elastic limit.
11,000	44,000	.005833	.004400	.....	.....	
11,250	45,000	.007433	.001600	.....	.....	
11,500	46,000	.009000	.001567	.....	.....	
11,750	47,000	.010033	.001033	.....	.....	
12,000	48,000	.011033	.001000	.....	.....	
12,250	49,000	.012167	.001134	.....	.....	
12,500	50,000	.013767	.001600	.....	.....	
13,000	52,000	.016467	.002700	.....	.....	
13,500	54,000	.019167	.002700	.....	.....	
14,000	56,000	.022333	.003166	.....	.....	
14,500	58,000	.026167	.003834	.....	.....	
15,000	60,000	.030333	.004166	.....	.....	
15,500	62,000	.034667	.004334	.....	.....	
16,000	64,000	.039667	.005000	.....	.....	
16,500	66,000	.045833	.006166	.....	.....	
17,000	68,000	.0567	.010867	.....	.....	
17,500	70,000	.0667	.0100	.....	.....	
18,000	72,000	.0800	.0133	.....	.....	
18,500	74,000	.1033	.0233	.....	.....	
18,810	75,240	.1733	.0700	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,240
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2867
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.204
Reduction in area after rupture, per centum of original section		59.3
Position of rupture		1″.40 from neck
Character of broken surface		silky
Elongation of inch sections		″.15, ″.41, ″.30

No. 2435.

Marks, $\frac{S\ T_{es}}{M\ T,\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001133	.000200	0.	.....	
10,000	40,000	.001300	.000167	.....	.....	Elastic limit.
10,250	41,000	.001600	.000300	.....	.....	
10,500	42,000	.002833	.001233	.....	.....	
10,750	43,000	.004667	.001834	.....	.....	
11,000	44,000	.007433	.002766	.....	.....	
11,250	45,000	.008333	.000900	.....	.....	
11,500	46,000	.009633	.001300	.....	.....	
11,750	47,000	.010433	.000800	.....	.....	
12,000	48,000	.011500	.001067	.....	.....	
12,250	49,000	.012667	.001167	.....	.....	
12,500	50,000	.014000	.001333	.....	.....	
13,000	52,000	.016667	.002667	.....	.....	
13,500	54,000	.019167	.002500	.....	.....	
14,000	56,000	.021833	.002666	.....	.....	
14,500	58,000	.025167	.003334	.....	.....	
15,000	60,000	.029000	.003833	.....	.....	
15,500	62,000	.033000	.004000	.....	.....	
16,000	64,000	.037333	.004333	.....	.....	
16,500	66,000	.0433	.005967	.....	.....	
17,000	68,000	.0533	.0100	.....	.....	
17,500	70,000	.0633	.0100	.....	.....	
18,000	72,000	.0700	.0067	.....	.....	
18,500	74,000	.0867	.0167	.....	.....	
19,000	76,000	.1100	.0233	.....	.....	
19,200	76,800	.1600	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,800
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.001200
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		".85 from neck
Character of broken surface		silky
Elongation of inch sections		".13, ".17, ".39

No. 2436.

Marks, $\frac{8\ T_{66}}{M\ T_3\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000200	.000100	0.	.....	
3,750	15,000	.000333	.000133	0.	.....	
5,000	20,000	.000500	.000167	0.	.....	
6,250	25,000	.000667	.000167	0.	.....	
7,500	30,000	.000833	.000166	0.	.....	
8,750	35,000	.001033	.000200	0.	.....	Elastic limit.
9,000	36,000	.002033	.001000	.....	.....	
9,250	37,000	.003600	.001567	.....	.....	
9,500	38,000	.005000	.001400	.....	.....	
9,750	39,000	.006367	.001367	.....	.....	
10,000	40,000	.008100	.001733	.....	.....	
10,250	41,000	.009367	.001267	.....	.....	
10,500	42,000	.010400	.001033	.....	.....	
10,750	43,000	.011333	.000933	.....	.....	
11,000	44,000	.012300	.000967	.....	.....	
11,250	45,000	.013667	.001367	.....	.....	
11,500	46,000	.014867	.001200	.....	.....	
11,750	47,000	.016000	.001133	.....	.....	
12,000	48,000	.017167	.001167	.....	.....	
12,250	49,000	.018433	.001266	.....	.....	
12,500	50,000	.019700	.001267	.....	.....	
13,000	52,000	.022667	.002967	.....	.....	
13,500	54,000	.026000	.003333	.....	.....	
14,000	56,000	.029500	.003500	.....	.....	
14,500	58,000	.033333	.003833	.....	.....	
15,000	60,000	.038833	.005500	.....	.....	
15,500	62,000	.0433	.004467	.....	.....	
16,000	64,000	.0533	.0100	.....	.....	
16,500	66,000	.0633	.0100	.....	.....	
17,000	68,000	.0700	.0067	.....	.....	
17,500	70,000	.0833	.0133	.....	.....	
18,000	72,000	.1033	.0200	.....	.....	
18,310	73,240	.1600	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,240
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2167
Elongation per inch under strain at elastic limit	do...	.001033
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		1″.05 from neck
Character of broken surface		granular; flaky spot at circumference
Elongation of inch sections		″.35*, ″.19, ″.11

No. 2437.

Marks, $\frac{8\,T_{36}}{M\,T_{2}\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	.0	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000467	.000200	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
7,750	31,000	.001000	.000033	.....	.....	
8,000	32,000	.001033	.000033	.....	.....	
8,250	33,000	.001067	.000034	.....	.....	
8,500	34,000	.001133	.000066	.....	.....	Elastic limit.
8,750	35,000	.002433	.001300	.....	.....	
9,000	36,000	.006833	.004400	.....	.....	
9,250	37,000	.007500	.000667	.....	.....	
9,500	38,000	.008233	.000733	.....	.....	
9,750	39,000	.009267	.001034	.....	.....	
10,000	40,000	.010400	.001133	.....	.....	
10,500	42,000	.012333	.001933	.....	.....	
11,000	44,000	.014667	.002334	.....	.....	
11,500	46,000	.017100	.002433	.....	.....	
12,000	48,000	.019500	.002400	.....	.....	
12,500	50,000	.022333	.002833	.....	.....	
13,000	52,000	.025400	.003067	.....	.....	
13,500	54,000	.027333	.001933	.....	.....	
14,000	56,000	.032333	.005000	.....	.....	
14,500	58,000	.037000	.004667	.....	.....	
15,000	60,000	.0433	.0063	.....	.....	
15,500	62,000	.0500	.0067	.....	.....	
16,000	64,000	.0567	.0067	.....	.....	
16,500	66,000	.0667	.0100	.....	.....	
17,000	68,000	.0767	.0100	.....	.....	
17,500	70,000	.0967	.0200	.....	.....	
18,000	72,000	.1300	.0333	.....	.....	
18,280	73,120	.1733	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,120
Elastic limit per square inch of original section	do...	34,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.004
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		1″.55 from neck
Character of broken surface		granular; flaky spot at circumference
Elongation of inch sections		″.18, ″.28, ″.34

No. 2116.

Marks, $\frac{8\,T_{\sigma}}{B\,T_1\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
10,000	40,000	.001367	.000200	.000033	.000033	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001433	.000033	.....	.....	Elastic limit.
10,750	43,000	.003467	.002034	.....	.....	
11,000	44,000	.005200	.001733	.....	.....	
11,250	45,000	.008500	.003300	.....	.....	
11,500	46,000	.010000	.001500	.....	.....	
11,750	47,000	.011333	.001333	.....	.....	
12,000	48,000	.012333	.001000	.....	.....	
12,250	49,000	.013200	.000867	.....	.....	
12,500	50,000	.014167	.000967	.....	.....	
12,750	51,000	.015767	.001600	.....	.....	
13,000	52,000	.017467	.001700	.....	.....	
13,250	53,000	.018833	.001366	.....	.....	
13,500	54,000	.020233	.001400	.....	.....	
13,750	55,000	.021667	.001434	.....	.....	
14,000	56,000	.023500	.001833	.....	.....	
14,250	57,000	.025167	.001667	.....	.....	
14,500	58,000	.027233	.002066	.....	.....	
14,750	59,000	.029000	.001767	.....	.....	
15,000	60,000	.031600	.002600	.....	.....	
15,500	62,000	.036667	.005067	.....	.....	
16,000	64,000	.041667	.005000	.....	.....	
16,500	66,000	.048333	.006666	.....	.....	
17,000	68,000	.056667	.008334	.....	.....	
17,500	70,000	.0667	.016033	.....	.....	
18,000	72,000	.0900	.0233	.....	.....	
18,500	74,000	.1200	.0300	.....	.....	
18,610	74,440	.1733	.0533	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8607
Hardness		11.81
Tensile strength per square inch of original section	pounds	74,440
Elastic limit per square inch of original section	do	42,000
Elongation per inch after rupture	inch	0.2767
Elongation per inch under strain at elastic limit	do	.001433
Reduction in diameter at point of rupture	do	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1 inch from neck
Character of broken surface		silky; cracks opened in surface of stem
Elongation of inch sections		″.45*, ″.22, ″.16

No. 2117.

Marks, $\frac{S\ T_{er}}{B\ T,\ O}$.
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000300	.000133	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.000967	.000134	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001133	.0	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	Elastic limit.
10,000	40,000	.012267	.011034	.....	.....	
10,250	41,000	.012833	.000566	.....	.....	
10,500	42,000	.013867	.001034	.....	.....	
10,750	43,000	.015067	.001200	.....	.....	
11,000	44,000	.016167	.001100	.....	.....	
11,250	45,000	.017533	.001366	.....	.....	
11,500	46,000	.019200	.001667	.....	.....	
11,750	47,000	.020000	.000800	.....	.....	
12,000	48,000	.021667	.001667	.....	.....	
12,250	49,000	.023667	.002000	.....	.....	
12,500	50,000	.025367	.001700	.....	.....	
12,750	51,000	.027067	.001700	.....	.....	
13,000	52,000	.028900	.001833	.....	.....	
13,250	53,000	.030500	.001600	.....	.....	
13,500	54,000	.032833	.002333	.....	.....	
13,750	55,000	.034733	.001900	.....	.....	
14,000	56,000	.037433	.002700	.....	.....	
14,250	57,000	.040000	.002567	.....	.....	
14,500	58,000	.043500	.003500	.....	.....	
14,750	59,000	.046500	.003000	.....	.....	
15,000	60,000	.049833	.003333	.....	.....	
15,500	62,000	.057667	.007834	.....	.....	
16,000	64,000	.0667	.009033	.....	.....	
16,500	66,000	.0833	.0166	.....	.....	
17,000	68,000	.1000	.0167	.....	.....	
17,500	70,000	.1333	.0333	.....	.....	
17,630	70,520	.1800	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	70,520
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		".60 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".40", ".30, ".15

No. 2118.

Marks, $\frac{8\,T_{4,7}}{B\,T_3\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	Elastic limit.
9,750	39,000	.001667	.000434	.....	.....	
10,000	40,000	.012733	.010066	.....	.....	
10,250	41,000	.013733	.001000	.....	.....	
10,500	42,000	.014867	.001134	.....	.....	
10,750	43,000	.015933	.001066	.....	.....	
11,000	44,000	.017367	.001434	.....	.....	
11,250	45,000	.018533	.001166	.....	.....	
11,500	46,000	.020400	.001867	.....	.....	
11,750	47,000	.021700	.001300	.....	.....	
12,000	48,000	.023367	.001667	.....	.....	
12,250	49,000	.024933	.001566	.....	.....	
12,500	50,000	.026833	.001900	.....	.....	
12,750	51,000	.028433	.001600	.....	.....	
13,000	52,000	.031167	.002734	.....	.....	
13,250	53,000	.033533	.002366	.....	.....	
13,500	54,000	.035833	.002300	.....	.....	
13,750	55,000	.038000	.002167	.....	.....	
14,000	56,000	.041000	.003000	.....	.....	
14,250	57,000	.043900	.002900	.....	.....	
14,500	58,000	.046500	.002600	.....	.....	
14,750	59,000	.050100	.003600	.....	.....	
15,000	60,000	.054333	.004233	.....	.....	
15,500	62,000	.0633	.008967	.....	.....	
16,000	64,000	.0733	.0100	.....	.....	
16,500	66,000	.0933	.0200	.....	.....	
17,000	68,000	.1267	.0334	.....	.....	
17,300	69,200	.1767	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	69,200
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2800
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section	.....	54.6
Position of rupture		1 inch from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		″.48,* ″.22, ″.14

No. 2119.

Marks, $\frac{8\ T_{47}}{M\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	—.000033	—.000033	
5,000	20,000	.000600	.000167	—.000033	0.	
6,250	25,000	.000800	.000200	—.000033	0.	
7,500	30,000	.000967	.000167	—.000033	0.	
8,750	35,000	.001100	.000133	—.000033	0.	
9,000	36,000	.001133	.000033	.....	.....	
9,250	37,000	.001167	.000034	.....	.....	
9,500	38,000	.001200	.000033	.....	.....	
9,750	39,000	.001233	.000033	.....	.....	Elastic limit.
10,000	40,000	.012867	.011634	.....	.....	
10,250	41,000	.013600	.000733	.....	.....	
10,500	42,000	.014367	.000767	.....	.....	
10,750	43,000	.015333	.000966	.....	.....	
11,000	44,000	.016500	.001167	.....	.....	
11,250	45,000	.017667	.001167	.....	.....	
11,500	46,000	.019000	.001333	.....	.....	
11,750	47,000	.020500	.001500	.....	.....	
12,000	48,000	.021833	.001333	.....	.....	
12,250	49,000	.023167	.001334	.....	.....	
12,500	50,000	.025000	.001833	.....	.....	
12,750	51,000	.026667	.001667	.....	.....	
13,000	52,000	.028333	.001666	.....	.....	
13,250	53,000	.030000	.001667	.....	.....	
13,500	54,000	.032100	.002100	.....	.....	
13,750	55,000	.033833	.001733	.....	.....	
14,000	56,000	.036667	.002834	.....	.....	
14,250	57,000	.039000	.002333	.....	.....	
14,500	58,000	.041500	.002500	.....	.....	
14,750	59,000	.044000	.002500	.....	.....	
15,000	60,000	.047333	.003333	.....	.....	
15,500	62,000	.054333	.007000	.....	.....	
16,000	64,000	.062167	.007834	.....	.....	
16,500	66,000	.0700	.007833	.....	.....	
17,000	68,000	.0900	.0200	.....	.....	
17,500	70,000	.1067	.0167	.....	.....	
18,000	72,000	.1433	.0366	.....	.....	
18,060	72,240	.1867	.0434	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,240
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2933
Elongation per inch under strain at elastic limit	do...	.001333
Reduction in diameter at point of rupture	do...	.104
Reduction in area after rupture, per centum of original section		49.7
Position of rupture	½ inch from middle of stem	
Character of broken surface	silky; opened cracks in surface of stem	
Elongation of inch sections	″.20, ″.48, ″.30	

No. 2120.

Marks, $\frac{8\ T''}{M\ T.\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001300	.000067	.....	.....	
10,000	40,000	.001367	.000067	.000033	.000033	
10,250	41,000	.001400	.000033	.....	.....	Elastic limit.
10,500	42,000	.012133	.010733	.....	.....	
10,750	43,000	.012667	.000534	.....	.....	
11,000	44,000	.013800	.001133	.....	.....	
11,250	45,000	.015000	.001200	.....	.....	
11,500	46,000	.016333	.001333	.....	.....	
11,750	47,000	.017667	.001334	.....	.....	
12,000	48,000	.019367	.001700	.....	.....	
12,250	49,000	.020667	.001300	.....	.....	
12,500	50,000	.021800	.001133	.....	.....	
12,750	51,000	.023333	.001533	.....	.....	
13,000	52,000	.024933	.001600	.....	.....	
13,250	53,000	.026567	.001634	.....	.....	
13,500	54,000	.028467	.001900	.....	.....	
13,750	55,000	.030333	.001866	.....	.....	
14,000	56,000	.032333	.002000	.....	.....	
14,250	57,000	.034067	.001734	.....	.....	
14,500	58,000	.037067	.003000	.....	.....	
14,750	59,000	.039167	.002100	.....	.....	
15,000	60,000	.042333	.003166	.....	.....	
15,500	62,000	.048833	.006500	.....	.....	
16,000	64,000	.055666	.006834	.....	.....	
16,500	66,000	.065000	.009333	.....	.....	
17,000	68,000	.0767	.0117	.....	.....	
17,500	70,000	.0967	.0200	.....	.....	
18,000	72,000	.1300	.0333	.....	.....	
18,170	72,680	.1800	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,680
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2667
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		½ inch from middle of stem
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".29, ".32*, ".19

No. 2121.

Marks, $\frac{8\ T_{47}}{M\ T_3\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	Elastic limit.
9,000	36,000	.005300	.004167	.....	.....	
9,250	37,000	.009067	.003767	.....	.....	
9,500	38,000	.010000	.000933	.....	.....	
9,750	39,000	.010800	.000800	.....	.....	
10,000	40,000	.011667	.000867	.....	.....	
10,250	41,000	.012733	.001066	.....	.....	
10,500	42,000	.013900	.001167	.....	.....	
10,750	43,000	.015033	.001133	.....	.....	
11,000	44,000	.016000	.000967	.....	.....	
11,250	45,000	.017433	.001433	.....	.....	
11,500	46,000	.019000	.001567	.....	.....	
11,750	47,000	.020000	.001000	.....	.....	
12,000	48,000	.021267	.001267	.....	.....	
12,250	49,000	.022700	.001433	.....	.....	
12,500	50,000	.024067	.001367	.....	.....	
12,750	51,000	.025600	.001533	.....	.....	
13,000	52,000	.027467	.001867	.....	.....	
13,250	53,000	.029033	.001566	.....	.....	
13,500	54,000	.030733	.001700	.....	.....	
13,750	55,000	.032500	.001767	.....	.....	
14,000	56,000	.034667	.002167	.....	.....	
14,250	57,000	.036333	.001666	.....	.....	
14,500	58,000	.038767	.002434	.....	.....	
14,750	59,000	.041167	.002400	.....	.....	
15,000	60,000	.043767	.002600	.....	.....	
15,500	62,000	.050000	.006233	.....	.....	
16,000	64,000	.057333	.007333	.....	.....	
16,500	66,000	.065500	.008167	.....	.....	
17,000	68,000	.078000	.012500	.....	.....	
17,500	70,000	.0933	.0153	.....	.....	
18,000	72,000	.1133	.0200	.....	.....	
18,390	73,560	.1767	.0634	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,560
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.31°, ″.23, ″.16

No. 2158.

Marks, $\frac{S\ Ts}{B\ T,\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	Elastic limit.
9,000	36,000	.001333	.000166	.....	.....	
9,250	37,000	.006000	.004667	.....	.....	
9,500	38,000	.010500	.004500	.....	.....	
9,750	39,000	.011667	.001167	.....	.....	
10,000	40,000	.012667	.001000	.....	.....	
10,250	41,000	.013733	.001066	.....	.....	
10,500	42,000	.015167	.001434	.....	.....	
10,750	43,000	.016533	.001366	.....	.....	
11,000	44,000	.018333	.001800	.....	.....	
11,250	45,000	.019667	.001334	.....	.....	
11,500	46,000	.021333	.001666	.....	.....	
11,750	47,000	.022900	.001567	.....	.....	
12,000	48,000	.024900	.002000	.....	.....	
12,250	49,000	.026333	.001433	.....	.....	
12,500	50,000	.028733	.002400	.....	.....	
13,000	52,000	.032667	.003934	.....	.....	
13,500	54,000	.037833	.005166	.....	.....	
14,000	56,000	.044000	.006167	.....	.....	
14,500	58,000	.051667	.007667	.....	.....	
15,000	60,000	.060000	.008333	.....	.....	
15,500	62,000	.070667	.010667	.....	.....	
16,000	64,000	.0867	.016033	.....	.....	
16,500	66,000	.1067	.0200	.....	.....	
17,000	68,000	.1567	.0500	.....	.....	
17,050	68,200	.1833	.0266	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8586
Hardness		10.01
Tensile strength per square inch of original section	pounds..	68,200
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2767
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		$\frac{3}{4}$ inch from middle of stem
Character of broken surface, granular, 50 per centum; silky, 50 per centum; opened cracks in surface of stem.		
Elongation of inch sections		".25, ".40*, ".18

No. 2159.

Marks, $\frac{8\ T_{40}}{B\ T_2\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001167	.000067	.....	.....	
9,250	37,000	.001233	.000066	.....	.....	Elastic limit.
9,500	38,000	.003333	.002100	.....	.....	
9,750	39,000	.005167	.001834	.....	.....	
10,000	40,000	.007467	.002300	.....	.....	
10,250	41,000	.008667	.001200	.....	.....	
10,500	42,000	.009833	.001166	.....	.....	
10,750	43,000	.010733	.000900	.....	.....	
11,000	44,000	.011900	.001167	.....	.....	
11,250	45,000	.013333	.001433	.....	.....	
11,500	46,000	.014533	.001200	.....	.....	
11,750	47,000	.015667	.001134	.....	.....	
12,000	48,000	.017067	.001400	.....	.....	
12,250	49,000	.018500	.001433	.....	.....	
12,500	50,000	.020333	.001833	.....	.....	
13,000	52,000	.023333	.003000	.....	.....	
13,500	54,000	.027067	.003734	.....	.....	
14,000	56,000	.030400	.003333	.....	.....	
14,500	58,000	.034500	.004100	.....	.....	
15,000	60,000	.039333	.004833	.....	.....	
15,500	62,000	.045333	.006000	.....	.....	
16,000	64,000	.051833	.006500	.....	.....	
16,500	66,000	.061333	.009500	.....	.....	
17,000	68,000	.072000	.010667	.....	.....	
17,500	70,000	.0983	.0213	.....	.....	
18,000	72,000	.1233	.0300	.....	.....	
18,160	72,640	.1667	.0434	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,[illegible]
Elastic limit per square inch of original section	do...	37,[illegible]
Elongation per inch after rupture	inch..	0.2[illegible]
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		§ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.30″, ″.18, ″.1[illegible]

No. 2160.

Marks, $\frac{8\ T_{48}}{B\ T_3\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	Elastic limit.
9,500	38,000	.001367	.000167	.....	.....	
9,750	39,000	.006333	.004966	.....	.....	
10,000	40,000	.008000	.001667	.....	.....	
10,250	41,000	.008700	.000700	.....	.....	
10,500	42,000	.009700	.001000	.....	.....	
10,750	43,000	.010700	.001000	.....	.....	
11,000	44,000	.012133	.001433	.....	.....	
11,250	45,000	.013733	.001600	.....	.....	
11,500	46,000	.015033	.001300	.....	.....	
11,750	47,000	.016000	.000967	.....	.....	
12,000	48,000	.017333	.001333	.....	.....	
12,250	49,000	.018500	.001167	.....	.....	
12,500	50,000	.020667	.002167	.....	.....	
13,000	52,000	.023733	.003066	.....	.....	
13,500	54,000	.027333	.003600	.....	.....	
14,000	56,000	.032333	.005000	.....	.....	
14,500	58,000	.036000	.003667	.....	.....	
15,000	60,000	.041433	.005433	.....	.....	
15,500	62,000	.047333	.005900	.....	.....	
16,000	64,000	.055833	.008500	.....	.....	
16,500	66,000	.065000	.009167	.....	.....	
17,000	68,000	.078333	.013333	.....	.....	
17,500	70,000	.1000	.021667	.....	.....	
17,930	71,720	.1733	.0733	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	71,720
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2600
Elongation per inch under strain at elastic limit	do...	.001200
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.39*, ″.22, ″.17

No. 2161.

Marks, $\frac{8\ T_{10}}{M\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000367	.000200	0.	.....	
3,750	15,000	.000467	.000100	0.	.....	
5,000	20,000	.000667	.000200	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001133	.000133	0.	.....	
9,000	36,000	.001200	.000067	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001300	.000067	.....	.....	
9,750	39,000	.001333	.000033	.....	.....	
10,000	40,000	.001367	.000034	.....	.....	Elastic limit.
10,250	41,000	.012000	.010633	.....	.....	
10,500	42,000	.012700	.000700	.....	.....	
10,750	43,000	.013500	.000800	.....	.....	
11,000	44,000	.014333	.000833	.....	.....	
11,250	45,000	.015500	.001167	.....	.....	
11,500	46,000	.016767	.001267	.....	.....	
11,750	47,000	.017833	.001066	.....	.....	
12,000	48,000	.019333	.001500	.....	.....	
12,250	49,000	.020667	.001334	.....	.....	
12,500	50,000	.021767	.001100	.....	.....	
13,000	52,000	.024500	.002733	.....	.....	
13,500	54,000	.027667	.003167	.....	.....	
14,000	56,000	.031167	.003500	.....	.....	
14,500	58,000	.034500	.003333	.....	.....	
15,000	60,000	.038467	.003967	.....	.....	
15,500	62,000	.043333	.004866	.....	.....	
16,000	64,000	.048833	.005500	.....	.....	
16,500	66,000	.055000	.006167	.....	.....	
17,000	68,000	.061667	.006667	.....	.....	
17,500	70,000	.0700	.008333	.....	.....	
18,000	72,000	.0867	.0167	.....	.....	
18,500	74,000	.1000	.0133	.....	.....	
18,980	75,920	.1400	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,920
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.1500
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.054
Reduction in area after rupture, per centum of original section		18.1
Position of rupture		½ inch from middle of stem
Character of broken surface		granular, 15 per centum; dull flaky, 85 per centum
Elongation of inch sections		″.11, ″.20, ″.14

No. 2162.

Marks, $\overset{8\ Ts}{M\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	.000033	.000033	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	Elastic limit.
9,750	39,000	.011333	.000100	.....	.....	
10,000	40,000	.012600	.001267	.....	.....	
10,250	41,000	.013333	.000733	.....	.....	
10,500	42,000	.014333	.001000	.....	.....	
10,750	43,000	.015500	.001167	.....	.....	
11,000	44,000	.016867	.001367	.....	.....	
11,250	45,000	.018100	.001233	.....	.....	
11,500	46,000	.019500	.001400	.....	.....	
11,750	47,000	.020833	.001333	.....	.....	
12,000	48,000	.022333	.001500	.....	.....	
12,250	49,000	.023733	.001400	.....	.....	
12,500	50,000	.025400	.001667	.....	.....	
13,000	52,000	.028833	.003433	.....	.....	
13,500	54,000	.032667	.003834	.....	.....	
14,000	56,000	.037333	.004666	.....	.....	
14,500	58,000	.042333	.005000	.....	.....	
15,000	60,000	.047833	.005500	.....	.....	
15,500	62,000	.054000	.006167	.....	.....	
16,000	64,000	.061667	.007667	.....	.....	
16,500	66,000	.071667	.010000	.....	.....	
17,000	68,000	.0833	.011633	.....	.....	
17,500	70,000	.1000	.0167	.....	.....	
18,000	72,000	.1333	.0333	.....	.....	
18,200	72,800	.1800	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,800
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2400
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		".45 from middle of stem
Character of broken surface		silky
Elongation of inch sections		".20, "35*, ".17

No. 2163.

Marks, $\frac{8\ T_{48}}{M\ T_3\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001200	.000067	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	Elastic limit.
9,500	38,000	.010667	.009434	.....	.....	
9,750	39,000	.012000	.001333	.....	.....	
10,000	40,000	.013200	.001200	.....	.....	
10,250	41,000	.013733	.000533	.....	.....	
10,500	42,000	.015000	.001267	.....	.....	
10,750	43,000	.016167	.001167	.....	.....	
11,000	44,000	.017500	.001333	.....	.....	
11,250	45,000	.018667	.001167	.....	.....	
11,500	46,000	.020400	.001733	.....	.....	
11,750	47,000	.021600	.001200	.....	.....	
12,000	48,000	.023033	.001433	.....	.....	
12,250	49,000	.024667	.001634	.....	.....	
12,500	50,000	.026500	.001833	.....	.....	
13,000	52,000	.030200	.003700	.....	.....	
13,500	54,000	.034500	.004300	.....	.....	
14,000	56,000	.038000	.003500	.....	.....	
14,500	58,000	.043333	.005333	.....	.....	
15,000	60,000	.049167	.005834	.....	.....	
15,500	62,000	.056667	.007500	.....	.....	
16,000	64,000	.065000	.008333	.....	.....	
16,500	66,000	.075333	.010333	.....	.....	
17,000	68,000	.0933	.017967	.....	.....	
17,500	70,000	.1100	.0167	.....	.....	
17,880	71,520	.1667	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	71,5[illegible]
Elastic limit per square inch of original section	do ..	37,[illegible]
Elongation per inch after rupture	inch..	0.[illegible]
Elongation per inch under strain at elastic limit	do...	.001[illegible]
Reduction in diameter at point of rupture	do...	.1[illegible]
Reduction in area after rupture, per centum of original section		[illegible]
Position of rupture	¾ inch from middle of [illegible]	
Character of broken surface		silky
Elongation of inch sections		″.30*, ″.27, ″.13

[Additional specimens.]

No. 2493.

Marks, $\frac{S\ Ts}{B\ T_4\ I}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000433	.000200	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000833	.000200	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001133	.000133	.....	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	Elastic limit.
10,000	40,000	.001400	.000133	.....	.....	
10,250	41,000	.006000	.004600	.....	.....	
10,500	42,000	.010000	.004000	.....	.....	
10,750	43,000	.011333	.001333	.....	.....	
11,000	44,000	.012133	.000800	.....	.....	
11,250	45,000	.013100	.000967	.....	.....	
11,500	46,000	.014700	.001600	.....	.....	
11,750	47,000	.016000	.001300	.....	.....	
12,000	48,000	.017867	.001867	.....	.....	
12,250	49,000	.019033	.001166	.....	.....	
12,500	50,000	.020933	.001900	.....	.....	
13,000	52,000	.024833	.003900	.....	.....	
13,500	54,000	.028333	.003500	.....	.....	
14,000	56,000	.032500	.004167	.....	.....	
14,500	58,000	.036900	.004400	.....	.....	
15,000	60,000	.042667	.005767	.....	.....	
15,500	62,000	.049333	.006666	.....	.....	
16,000	64,000	.058333	.009000	.....	.....	
16,500	66,000	.0700	.011667	.....	.....	
17,000	68,000	.0867	.0167	.....	.....	
17,500	70,000	.1133	.0266	.....	.....	
17,760	71,040	.1600	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	71,040
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2967
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.205
Reduction in area after rupture, per centum of original section		59.3
Position of rupture		1″.60 from neck
Character of broken surface		silky
Elongation of inch sections		″.23, ″.50*, ″.16

No. 2494.

Marks, $\frac{8\ T_{\infty}}{B\ T,\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.009167	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
9,000	36,000	.001200	.000067	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	Elastic limit.
9,500	38,000	.001400	.000167	.....	.....	
9,750	39,000	.010567	.000167	.....	.....	
10,000	40,000	.011600	.001033	.....	.....	
10,500	42,000	.014000	.002400	.....	.....	
11,000	44,000	.016833	.002833	.....	.....	
11,500	46,000	.020000	.003167	.....	.....	
12,000	48,000	.022533	.002533	.....	.....	
12,500	50,000	.026167	.003634	.....	.....	
13,000	52,000	.029900	.003733	.....	.....	
13,500	54,000	.034000	.004100	.....	.....	
14,000	56,000	.039000	.005000	.....	.....	
14,500	58,000	.044200	.005200	.....	.....	
15,000	60,000	.050667	.006467	.....	.....	
15,500	62,000	.058667	.008000	.....	.....	
16,000	64,000	.0700	.011333	.....	.....	
16,500	66,000	.0833	.0133	.....	.....	
17,000	68,000	.0967	.0134	.....	.....	
17,500	70,000	.1567	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds.. 70,0[illegible]
Elastic limit per square inch of original section	do .. 37,[illegible]
Elongation per inch after rupture	inch.. 0.[illegible]
Elongation per inch under strain at elastic limit	do... .001[illegible]
Reduction in diameter at point of rupture	do... .19[illegible]
Reduction in area after rupture, per centum of original section	57.[illegible]
Position of rupture	1".70 from [illegible]
Character of broken surface	silky
Elongation of inch sections	".21, ".49", ".16

No. 2495.

Marks, $\frac{8\,T_{40}}{B\,T_6\,M}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000800	.000200	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
9,000	36,000	.001200	.000067	.....	.....	Elastic limit.
9,250	37,000	.011333	.010133	.....	.....	
9,500	38,000	.012000	.000667	.....	.....	
9,750	39,000	.012500	.000500	.....	.....	
10,000	40,000	.013800	.001300	.....	.....	
10,500	42,000	.016333	.002533	.....	.....	
11,000	44,000	.019333	.003000	.....	.....	
11,500	46,000	.022167	.002834	.....	.....	
12,000	48,000	.025333	.003166	.....	.....	
12,500	50,000	.028500	.003167	.....	.....	
13,000	52,000	.032667	.004167	.....	.....	
13,500	54,000	.036667	.004000	.....	.....	
14,000	56,000	.041533	.004866	.....	.....	
14,500	58,000	.047333	.005800	.....	.....	
15,000	60,000	.054000	.006667	.....	.....	
15,500	62,000	.0633	.0093	.....	.....	
16,000	64,000	.0700	.0067	.....	.....	
16,500	66,000	.0867	.0167	.....	.....	
17,000	68,000	.1067	.0200	.....	.....	
17,500	70,000	.1467	.0400	.....	.....	
17,590	70,360	.1833	.0366	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	70,360
Elastic limit per square inch of original section	do...	36,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do ..	.001200
Reduction in diameter at point of rupture	do...	.135
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.16, ″.26, ″.35*

No. 2496.

Marks, $\frac{8\ Ts}{M\ T,\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001000	.000200	0.	.....	
8,750	35,000	.001167	.000167	.....	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001233	.000033	.....	.....	
9,500	38,000	.001333	.000100	.....	.....	
9,750	39,000	.001367	.000034	.....	.....	Elastic limit.
10,000	40,000	.012867	.011500	.....	.....	
10,500	42,000	.013967	.001100	.....	.....	
11,000	44,000	.016400	.002433	.....	.....	
11,500	46,000	.018667	.002267	.....	.....	
12,000	48,000	.021367	.002700	.....	.....	
12,500	50,000	.024333	.002966	.....	.....	
13,000	52,000	.027667	.003334	.....	.....	
13,500	54,000	.031333	.003666	.....	.....	
14,000	56,000	.035000	.003667	.....	.....	
14,500	58,000	.038933	.003933	.....	.....	
15,000	60,000	.044667	.005734	.....	.....	
15,500	62,000	.049667	.005000	.....	.....	
16,000	64,000	.055667	.006000	.....	.....	
16,500	66,000	.0633	.007633	.....	.....	
17,000	68,000	.0733	.0100	.....	.....	
17,500	70,000	.0933	.0200	.....	.....	
18,000	72,000	.1100	.0167	.....	.....	
18,500	74,000	.1600	.0500	.....	.....	
18,510	74,040	.1733	.0133	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,04[illegible]
Elastic limit per square inch of original section	do..	39,0[illegible]
Elongation per inch after rupture	inch..	0.[illegible]
Elongation per inch under strain at elastic limit	do...	.001[illegible]
Reduction in diameter at point of rupture	do...	.[illegible]
Reduction in area after rupture, per centum of original section		3[illegible]
Position of rupture		1 inch from [illegible]
Character of broken surface	granular; dull flaky spot at the circumference	
Elongation of inch sections		".14, ".22, ".25"

No. 2497.

Marks, $\frac{8\ T_{48}}{M\ T_5\ O}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000700	.000200	0.	.....	
6,250	25,000	.000900	.000200	0.	.....	
7,500	30,000	.001033	.000133	0.	.....	
8,750	35,000	.001167	.000134	.....	.....	
9,000	36,000	.001267	.000100	.....	.....	
9,250	37,000	.001333	.000066	.....	.....	
9,500	38,000	.001367	.000034	.....	.....	Elastic limit.
9,750	39,000	.001900	.000533	.....	.....	
10,000	40,000	.011400	.009500	.....	.....	
10,500	42,000	.013333	.001933	.....	.....	
11,000	44,000	.015567	.002234	.....	.....	
11,500	46,000	.018167	.002600	.....	.....	
12,000	48,000	.021000	.002833	.....	.....	
12,500	50,000	.024000	.003000	.....	.....	
13,000	52,000	.027333	.003333	.....	.....	
13,500	54,000	.030833	.003500	.....	.....	
14,000	56,000	.035333	.004500	.....	.....	
14,500	58,000	.039667	.004334	.....	.....	
15,000	60,000	.045333	.005666	.....	.....	
15,500	62,000	.053333	.008000	.....	.....	
16,000	64,000	.059667	.006334	.....	.....	
16,500	66,000	.0667	.007033	.....	.....	
17,000	68,000	.0800	.0133	.....	.....	
17,500	70,000	.0967	.0167	.....	.....	
18,000	72,000	.1333	.0366	.....	.....	
18,160	72,640	.1800	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	72,640
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2800
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.165
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″.20 from neck
Character of broken surface		silky
Elongation of inch sections		″.39*,″.26,″.19

No. 2498.

Marks, $\frac{8\ T_{48}}{M\ T_6\ M}$
Diameter, ″.565.
Sectional area, .25 square inch.

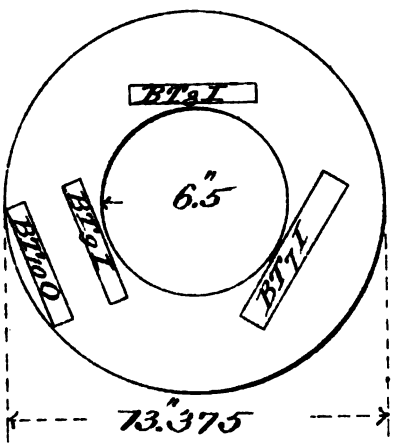
Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	.....	.....	
2,500	10,000	.000233	.000133	.....	.....	
3,750	15,000	.000400	.000167	.....	.....	
5,000	20,000	.000567	.000167	.....	.....	
6,250	25,000	.000733	.000166	.....	.....	
7,500	30,000	.000900	.000167	.....	.....	
8,750	35,000	.001100	.000200	.....	.....	
9,000	36,000	.001167	.000067	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	Elastic limit.
9,500	38,000	.001400	.000200	.....	.....	
9,750	39,000	.011400	.010000	.....	.....	
10,000	40,000	.013000	.001600	.....	.....	
10,500	42,000	.015167	.002167	.....	.....	
11,000	44,000	.017667	.002500	.....	.....	
11,500	46,000	.020233	.002566	.....	.....	
12,000	48,000	.023333	.003100	.....	.....	
12,500	50,000	.026333	.003000	.....	.....	
13,000	52,000	.030000	.003667	.....	.....	
13,500	54,000	.034000	.004000	.....	.....	
14,000	56,000	.038667	.004667	.....	.....	
14,500	58,000	.043333	.004666	.....	.....	
15,000	60,000	.049000	.005667	.....	.....	
15,500	62,000	.055333	.006333	.....	.....	
16,000	64,000	.0633	.007967	.....	.....	
16,500	66,000	.0733	.0100	.....	.....	
17,000	68,000	.0933	.0200	.....	.....	
17,500	70,000	.1067	.0134	.....	.....	
18,000	72,000	.1433	.0366	.....	.....	
18,100	72,400	.1800	.0367	.....	.....	Tensile strength.

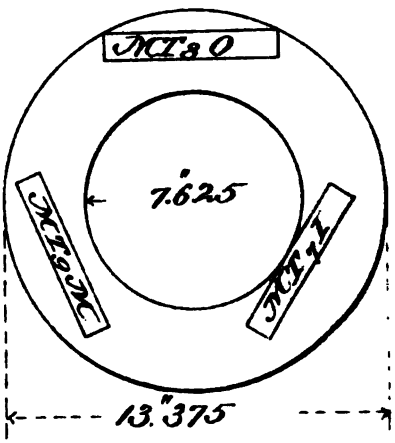
General summary.

Tensile strength per square inch of original section	pounds	72,400
Elastic limit per square inch of original section	do	37,000
Elongation per inch after rupture	inch	0.2567
Elongation per inch under strain at elastic limit	do	.001200
Reduction in diameter at point of rupture	do	.175
Reduction in area after rupture, per centum of original section		52.2
Position of rupture	¼ inch from middle of stem	
Character of broken surface		silky
Elongation of inch sections		″.14, ″.46°, ″.17

Tube No. 48 8" converted Rifle

Additional specimens





H Ex 31 492

No. 2713.

Marks, $\frac{S\ T_{es}}{B\ T,\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remrks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.		Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000800	.000133	0.	.....	
7,500	30,000	.001000	.000200	0.	.....	
8,750	35,000	.001133	.000133	.....	.....	
10,000	40,000	.001333	.000200	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001400	0.	.....	.....	
11,000	44,000	.001467	.000067	.....	.....	
11,250	45,000	.001500	.000033	.....	.....	
11,500	46,000	.001533	.000033	.....	.....	
11,750	47,000	.001600	.000067	.....	.....	
12,000	48,000	.001667	.000067	.....	.....	
12,250	49,000	.001733	.000066	.....	.....	Elastic limit.
12,500	50,000	.005133	.003400	.....	.....	
12,750	51,000	.007067	.001934	.....	.....	
13,000	52,000	.008733	.001666	.....	.....	
13,500	54,000	.011667	.002934	.....	.....	
14,000	56,000	.013733	.002066	.....	.....	
14,500	58,000	.016333	.002600	.....	.....	
15,000	60,000	.019333	.003000	.....	.....	
15,500	62,000	.023033	.003700	.....	.....	
16,000	64,000	.025667	.002634	.....	.....	
16,500	66,000	.029000	.003333	.....	.....	
17,000	68,000	.032667	.003667	.....	.....	
17,500	70,000	.037667	.005000	.....	.....	
18,000	72,000	.0400	.002333	.....	.....	
18,500	74,000	.0467	.0067	.....	.....	
19,000	76,000	.0600	.0133	.....	.....	
19,500	78,000	.0667	.0067	.....	.....	
20,000	80,000	.0933	.0266	.....	.....	
20,480	81,920	.1400	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,920
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2167
Elongation per inch under strain at elastic limit	do...	.001733
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		".70 from neck
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".36", ".15, ".14

No. 2717.

Marks, $\frac{8\,T_{13}}{B\,T_{8}\,I}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000300	.000150	0.	.....	
3,000	15,000	.000500	.000200	0.	.....	
4,000	20,000	.000700	.000200	0.	.....	
5,000	25,000	.000900	.000200	0.	.....	
6,000	30,000	.001000	.000100	0.	.....	
7,000	35,000	.001250	.000250	0.	.....	
8,000	40,000	.001450	.000200	.000050	.000050	
9,000	45,000	.001600	.000150	.....	.....	
9,200	46,000	.001650	.000050	.....	.....	
9,400	47,000	.001650	0.	.....	.....	
9,600	48,000	.001700	.000050	.....	.....	
9,800	49,000	.001750	.000050	.....	.....	
10,000	50,000	.001800	.000050	.....	.....	Elastic limit.
10,200	51,000	.001950	.000150	.....	.....	
10,400	52,000	.005000	.003050	.....	.....	
10,600	53,000	.006750	.001750	.....	.....	
10,800	54,000	.008000	.001250	.....	.....	
11,000	55,000	.008750	.000750	.....	.....	
11,200	56,000	.010000	.001250	.....	.....	
11,400	57,000	.011150	.001150	.....	.....	
11,600	58,000	.012500	.001350	.....	.....	
11,800	59,000	.013600	.001100	.....	.....	
12,000	60,000	.014800	.001200	.....	.....	
12,400	62,000	.017150	.002350	.....	.....	
12,800	64,000	.020000	.002850	.....	.....	
13,200	66,000	.023000	.003000	.....	.....	
13,600	68,000	.026150	.003150	.....	.....	
14,000	70,000	.030000	.003850	.....	.....	
14,400	72,000	.034000	.004000	.....	.....	
14,800	74,000	.038000	.004000	.....	.....	
15,200	76,000	.043500	.005500	.....	.....	
15,600	78,000	.0500	.0065	.....	.....	
16,000	80,000	.0575	.0075	.....	.....	
16,400	82,000	.0650	.0075	.....	.....	
16,800	84,000	.1000	.0350	.....	.....	
16,990	84,950	.1350	.0350	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section ..... pounds..	[illegible]
Elastic limit per square inch of original section ..... do...	[illegible]
Elongation per inch after rupture ..... inch..	[illegible]
Elongation per inch under strain at elastic limit ..... do...	.001[illegible]
Reduction in diameter at point of rupture	.15[illegible]
Reduction in area after rupture, per centum of original section	51.0
Position of rupture	1 inch from neck
Character of broken surface	silky
Elongation of inch sections	″.16, ″.34″

No. 2718.

Marks, $\frac{8\ T_{48}}{B\ T_9\ I}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000200	.000200	0.	.....	
2,000	10,000	.000400	.000200	0.	.....	
3,000	15,000	.000600	.000200	0.	.....	
4,000	20,000	.000750	.000150	0.	.....	
5,000	25,000	.000900	.000150	0.	.....	
6,000	30,000	.001050	.000150	0.	.....	
7,000	35,000	.001250	.000200	.000050	.000050	
8,000	40,000	.001400	.000150	.000050	0.	
9,000	45,000	.001550	.000150	.....	.....	
9,600	48,000	.001650	.000100	.....	.....	
9,800	49,000	.001700	.000050	.....	.....	Elastic limit.
10,000	50,000	.004750	.003050	.....	.....	
10,200	51,000	.008000	.003250	.....	.....	
10,400	52,000	.009000	.001000	.....	.....	
10,600	53,000	.010200	.001200	.....	.....	
10,800	54,000	.011500	.001300	.....	.....	
11,000	55,000	.012500	.001000	.....	.....	
11,200	56,000	.013750	.001250	.....	.....	
11,600	58,000	.016050	.002300	.....	.....	
12,000	60,000	.019000	.002950	.....	.....	
12,400	62,000	.022500	.003500	.....	.....	
12,800	64,000	.025750	.003250	.....	.....	
13,200	66,000	.029000	.003250	.....	.....	
13,600	68,000	.032500	.003500	.....	.....	
14,000	70,000	.036750	.004250	.....	.....	
14,400	72,000	.042000	.005250	.....	.....	
14,800	74,000	.048750	.006750	.....	.....	
15,200	76,000	.0550	.006250	.....	.....	
15,600	78,000	.0650	.0100	.....	.....	
16,000	80,000	.0800	.0150	.....	.....	
16,400	82,000	.1100	.0300	.....	.....	
16,500	82,500	.1500	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,500
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.2350
Elongation per inch under strain at elastic limit	do...	.001700
Reduction in diameter at point of rupture	do ..	.120
Reduction in area after rupture, per centum of original section		43.5
Position of rupture		″.80 from neck
Character of broken surface		silky
Elongation of inch sections		″.30*, ″.17

No. 2719.

Marks, $\frac{8\ T_{28}}{B\ T_{10}\ O}$
Diameter, ".505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000150	.000150	0.	.....	
2,000	10,000	.000350	.000200	0.	.....	
3,000	15,000	.000500	.000150	0.	.....	
4,000	20,000	.000650	.000150	0.	.....	
5,000	25,000	.000800	.000150	0.	.....	
6,000	30,000	.000950	.000150	0.	.....	
7,000	35,000	.001150	.000200	0.	.....	
8,000	40,000	.001300	.000150	0.	.....	
9,000	45,000	.001500	.000200	.....	.....	
10,000	50,000	.001700	.000200	.....	.....	
10,200	51,000	.001750	.000050	.....	.....	
10,400	52,000	.001800	.000050	.....	.....	
10,600	53,000	.001850	.000050	.....	.....	
10,800	54,000	.001900	.000050	.....	.....	Elastic limit.
11,000	55,000	.009000	.007100	.....	.....	
11,200	56,000	.010000	.001000	.....	.....	
11,400	57,000	.010850	.000850	.....	.....	
11,600	58,000	.011700	.000850	.....	.....	
11,800	59,000	.013050	.001350	.....	.....	
12,000	60,000	.014050	.001000	.....	.....	
12,400	62,000	.016300	.002250	.....	.....	
12,800	64,000	.019900	.003600	.....	.....	
13,200	66,000	.022500	.002600	.....	.....	
13,600	68,000	.025500	.003000	.....	.....	
14,000	70,000	.028750	.003250	.....	.....	
14,400	72,000	.033000	.004250	.....	.....	
14,800	74,000	.037000	.004000	.....	.....	
15,200	76,000	.042000	.005000	.....	.....	
15,600	78,000	.048400	.006400	.....	.....	
16,000	80,000	.0575	.0091	.....	.....	
16,400	82,000	.0650	.0075	.....	.....	
16,800	84,000	.1030	.0350	.....	.....	
17,100	85,500	.1300	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	85,500
Elastic limit per square inch of original section	do	54,000
Elongation per inch after rupture	inch	0.[illegible]
Elongation per inch under strain at elastic limit	do	.0[illegible]
Reduction in diameter at point of rupture	do	.145
Reduction in area after rupture, per centum of original section		48.1
Position of rupture		at middle of stem
Character of broken surface		silky; opened cracks in surface of stem
Elongation of inch sections		".28", ".36"

No. 2714.

Marks, $\frac{8\ \text{Ts}}{\text{M T; I}}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	0.	.....	
2,500	10,000	.000100	.000033	0.	.....	
3,750	15,000	.000400	.000300	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000800	.000233	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	.....	.....	
10,000	40,000	.001300	.000167	.....	.....	
11,250	45,000	.001467	.000167	.....	.....	
11,500	46,000	.001500	.000033	.....	.....	
11,750	47,000	.001533	.000033	.....	.....	
12,000	48,000	.001567	.000034	.....	.....	
12,250	49,000	.001633	.000066	.....	.....	
12,500	50,000	.001700	.000067	.....	.....	
12,750	51,000	.001767	.000067	.....	.....	Elastic limit.
13,000	52,000	.002000	.000233	.....	.....	
13,250	53,000	.002300	.000300	.....	.....	
13,500	54,000	.003000	.000700	.....	.....	
13,750	55,000	.003767	.000767	.....	.....	
14,000	56,000	.005667	.001900	.....	.....	
14,500	58,000	.008567	.002900	.....	.....	
15,000	60,000	.011567	.003000	.....	.....	
15,500	62,000	.014167	.002600	.....	.....	
16,000	64,000	.016533	.002366	.....	.....	
16,500	66,000	.019000	.002467	.....	.....	
17,000	68,000	.021733	.002733	.....	.....	
17,500	70,000	.024733	.003000	.....	.....	
18,000	72,000	.028033	.003300	.....	.....	
18,500	74,000	.031767	.003734	.....	.....	
19,000	76,000	.0350	.003233	.....	.....	
19,500	78,000	.0383	.0033	.....	.....	
20,000	80,000	.0433	.0050	.....	.....	
20,500	82,000	.0600	.0167	.....	.....	
21,000	84,000	.0700	.0100	.....	.....	
21,500	86,000	.0867	.0167	.....	.....	
21,650	86,600	.1067	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,600
Elastic limit per square inch of original section	do...	51,000
Elongation per inch after rupture	inch..	0.1333
Elongation per inch under strain at elastic limit	do...	.001767
Reduction in diameter at point of rupture	do...	.0674
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		".90 from neck
Character of broken surface		granular
Elongation of inch sections		".20*, ".10, ".10

No. 2715.

Marks, $\frac{8\ T_{48}}{M\ T_{3}O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000933	.000133	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
10,000	40,000	.001267	.000167	.....	.....	
11,250	45,000	.001467	.000200	.....	.....	
11,500	46,000	.001533	.000066	.....	.....	
11,750	47,000	.001600	.000067	.....	.....	
12,000	48,000	.001633	.000033	.....	.....	
12,250	49,000	.001700	.000067	.....	.....	Elastic limit.
12,500	50,000	.002033	.000333	.....	.....	
12,750	51,000	.002333	.000300	.....	.....	
13,000	52,000	.003667	.001334	.....	.....	
13,250	53,000	.004667	.001000	.....	.....	
13,500	54,000	.006333	.001666	.....	.....	
14,000	56,000	.009100	.002767	.....	.....	
14,500	58,000	.011667	.002567	.....	.....	
15,000	60,000	.014000	.002333	.....	.....	
15,500	62,000	.016667	.002667	.....	.....	
16,000	64,000	.019333	.002666	.....	.....	
16,500	66,000	.022667	.003334	.....	.....	
17,000	68,000	.025667	.003000	.....	.....	
17,500	70,000	.028767	.003100	.....	.....	
18,000	72,000	.032333	.003566	.....	.....	
18,500	74,000	.036667	.004334	.....	.....	
19,000	76,000	.0400	.003333	.....	.....	
19,500	78,000	.0467	.0067	.....	.....	
20,000	80,000	.0567	.0100	.....	.....	
20,500	82,000	.0667	.0100	.....	.....	
21,000	84,000	.0900	.0233	.....	.....	
21,400	85,600	.1333	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	85,600
Elastic limit per square inch of original section	do...	49,000
Elongation per inch after rupture	inch..	0.19[illegible]
Elongation per inch under strain at elastic limit	do...	.001[illegible]
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.[illegible]
Position of rupture	at middle of stem	
Character of broken surface	silky	
Elongation of inch sections	″.10, ″.34°, ″.14	

No. 2716.

Marks, $\frac{S\ Ts}{M\ T,M}$
Diameter, ".560.
Sectional area, .246 square inch.

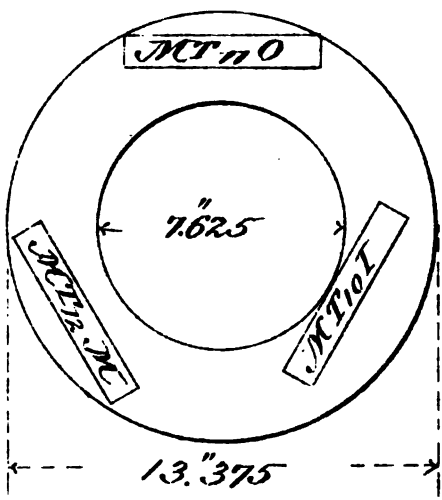
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
246	1,000	0.	0.	0.	0.	Initial load.
1,230	5,000	.000133	.000133	0.	.....	
2,460	10,000	.000267	.000134	0.	.....	
3,690	15,000	.000467	.000200	0.	.....	
4,920	20,000	.000667	.000200	0.	.....	
6,150	25,000	.000867	.000200	0.	.....	
7,380	30,000	.001033	.000166	0.	.....	
8,610	35,000	.001133	.000100	.....	.....	
9,840	40,000	.001367	.000234	.....	.....	
11,070	45,000	.001533	.000166	.....	.....	
11,316	46,000	.001600	.000067	.....	.....	
11,562	47,000	.001667	.000067	.....	.....	
11,808	48,000	.001700	.000033	.....	.....	
12,054	49,000	.001767	.000067	.....	.....	
12,300	50,000	.001833	.000066	.....	.....	Elastic limit.
12,546	51,000	.002033	.000200	.....	.....	
12,792	52,000	.002133	.000400	.....	.....	
13,038	53,000	.003433	.001000	.....	.....	
13,284	54,000	.004900	.001467	.....	.....	
13,776	56,000	.007067	.002167	.....	.....	
14,268	58,000	.009733	.002666	.....	.....	
14,760	60,000	.012100	.002367	.....	.....	
15,252	62,000	.014667	.002567	.....	.....	
15,744	64,000	.017067	.002400	.....	.....	
16,236	66,000	.019500	.002433	.....	.....	
16,728	68,000	.022800	.003300	.....	.....	
17,220	70,000	.025600	.002800	.....	.....	
17,712	72,000	.028333	.002733	.....	.....	
18,204	74,000	.032333	.004000	.....	.....	
18,696	76,000	.0367	.004367	.....	.....	
19,188	78,000	.0400	.0033	.....	.....	
19,680	80,000	.0467	.0067	.....	.....	
20,172	82,000	.0567	.0100	.....	.....	
20,664	84,000	.0667	.0100	.....	.....	
21,156	86,000	.0767	.0100	.....	.....	
21,648	88,000	.1067	.0300	.....	.....	
21,700	88,210	.1300	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,210
Elastic limit per square inch of original section	do...	50,000
Elongation per inch after rupture	inch..	0.2133
Elongation per inch under strain at elastic limit	do...	.001833
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		46.3
Position of rupture	1¼ inches from neck;	oblique
Character of broken surface		silky
Elongation of inch sections		".09, ".22*, ".23*

Tube No. 48 8" converted Rifle

Additional specimens



H Ex 31 492

No. 2735.

Marks, $\frac{8\,Cn\,R_{48}\,T}{M\,T_{10}\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000700	.000133	0.	.....	
7,500	30,000	.000867	.000167	0.	.....	
8,750	35,000	.001033	.000166	—.000033	—.000033	
10,000	40,000	.001200	.000167	.....	.....	
10,250	41,000	.001233	.000033	.....	.....	Elastic limit.
10,500	42,000	.001367	.000134	.....	.....	
10,750	43,000	.001433	.000066	.....	.....	
11,000	44,000	.001533	.000100	.....	.....	
11,250	45,000	.001700	.000167	.....	.....	
11,500	46,000	.002400	.000700	.....	.....	
11,750	47,000	.003500	.001100	.....	.....	
12,000	48,000	.005000	.001500	.....	.....	
12,250	49,000	.006500	.001500	.....	.....	
12,500	50,000	.007500	.001000	.....	.....	
13,000	52,000	.010000	.002500	.....	.....	
13,500	54,000	.012500	.002500	.....	.....	
14,000	56,000	.014667	.002167	.....	.....	
14,500	58,000	.017167	.002500	.....	.....	
15,000	60,000	.020000	.002833	.....	.....	
15,500	62,000	.023000	.003000	.....	.....	
16,000	64,000	.026200	.003200	.....	.....	
16,500	66,000	.030000	.003800	.....	.....	
17,000	68,000	.034333	.004333	.....	.....	
17,500	70,000	.038667	.004334	.....	.....	
18,000	72,000	.0433	.004633	.....	.....	
18,500	74,000	.0533	.0100	.....	.....	
19,000	76,000	.0600	.0067	.....	.....	
19,500	78,000	.0733	.0133	.....	.....	
20,000	80,000	.1000	.0267	.....	.....	
20,050	80,200	.1333	.0333	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,200
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.36*, ″.16, ″.08

No. 2736.

Marks, $^{8\,Cn\,R_{48}\,T}_{M\,T_{11}\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000467	.000200	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000767	.000134	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001367	.000267	.....	.....	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001433	.000033	.....	.....	Elastic limit.
10,750	43,000	.002000	.000567	.....	.....	
11,000	44,000	.004333	.002333	.....	.....	
11,250	45,000	.006000	.001667	.....	.....	
11,500	46,000	.007067	.001067	.....	.....	
11,750	47,000	.008333	.001266	.....	.....	
12,000	48,000	.009333	.001000	.....	.....	
12,250	49,000	.010333	.001000	.....	.....	
12,500	50,000	.011000	.000667	.....	.....	
13,000	52,000	.013333	.002333	.....	.....	
13,500	54,000	.016333	.003000	.....	.....	
14,000	56,000	.019000	.002667	.....	.....	
14,500	58,000	.022000	.003000	.....	.....	
15,000	60,000	.025200	.003200	.....	.....	
15,500	62,000	.028333	.003133	.....	.....	
16,000	64,000	.032333	.004000	.....	.....	
16,500	66,000	.036333	.004000	.....	.....	
17,000	68,000	.041333	.005000	.....	.....	
17,500	70,000	.0467	.005367	.....	.....	
18,000	72,000	.0567	.0100	.....	.....	
18,500	74,000	.0633	.0066	.....	.....	
19,000	76,000	.0800	.0167	.....	.....	
19,000	78,000	.1067	.0267	.....	.....	
19,680	78,720	.1667	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	78,720
Elastic limit per square inch of original section	do	42,000
Elongation per inch after rupture	inch	0.2567
Elongation per inch under strain at elastic limit	do	.001433
Reduction in diameter at point of rupture	do	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		1″. 60 from [illegible]
Character of broken surface		silky
Elongation of inch sections		″. 15, ″. 40′, ″. 22

No. 2737.

Marks, $\frac{8\,Cn\,R_{48}\,T}{M\,T_{12}\,M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000867	.000200	0.	.....	
7,500	30,000	.001033	.000166	0.	.....	
8,750	35,000	.001200	.000167	.000033	.000033	
9,000	36,000	.001267	.000067	.....	.....	
9,250	37,000	.001300	.000033	.....	.....	
9,500	38,000	.001367	.000067	.....	.....	
9,750	39,000	.001400	.000033	.....	.....	
10,000	40,000	.001467	.000067	.....	.....	
10,250	41,000	.001533	.000066	.....	.....	
10,500	42,000	.001600	.000067	.....	.....	Elastic limit
10,750	43,000	.001700	.000100	.....	.....	
11,000	44,000	.001867	.000167	.....	.....	
11,250	45,000	.002233	.000366	.....	.....	
11,500	46,000	.003167	.000934	.....	.....	
11,750	47,000	.004533	.001366	.....	.....	
12,000	48,000	.006067	.001534	.....	.....	
12,250	49,000	.006900	.000833	.....	.....	
12,500	50,000	.008267	.001367	.....	.....	
13,000	52,000	.010567	.002300	.....	.....	
13,500	54,000	.012667	.002100	.....	.....	
14,000	56,000	.014833	.002166	.....	.....	
14,500	58,000	.017333	.002500	.....	.....	
15,000	60,000	.020000	.002667	.....	.....	
15,500	62,000	.022667	.002667	.....	.....	
16,000	64,000	.025667	.003000	.....	.....	
16,500	66,000	.029000	.003333	.....	.....	
17,000	68,000	.032667	.003667	.....	.....	
17,500	70,000	.036667	.004000	.....	.....	
18,000	72,000	.041500	.004833	.....	.....	
18,500	74,000	.0467	.0052	.....	.....	
19,000	76,000	.0567	.0100	.....	.....	
19,500	78,000	.0667	.0100	.....	.....	
20,000	80,000	.0767	.0100	.....	.....	
20,500	82,000	.1100	.0333	.....	.....	
20,540	82,160	.1400	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section.....pounds.. 82,160
Elastic limit per square inch of original section.....do.. 42,000
Elongation per inch after rupture.....inch.. 0.2267
Elongation per inch under strain at elastic limit.....do... .001600
Reduction in diameter at point of rupture.....do... .114
Reduction in area after rupture, per centum of original section..... 36.4
Position of rupture.....at middle of stem
Character of broken surface, granular, 60 per centum; silky, 40 per centum; opened cracks in surface of stem.
Elongation of inch sections.....″.13, ″.35*, ″.20

No. 2140.

Marks, $\overset{S\ Te}{B\ T,\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000233	.000100	0.	.....	
3,750	15,000	.000433	.000200	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001167	.000067	.....	.....	Elastic limit.
9,250	37,000	.002133	.000966	.....	.....	
9,500	38,000	.003433	.001300	.....	.....	
9,750	39,000	.004600	.001167	.....	.....	
10,000	40,000	.006900	.002300	.....	.....	
10,250	41,000	.008767	.001867	.....	.....	
10,500	42,000	.009667	.000900	.....	.....	
10,750	43,000	.010767	.001100	.....	.....	
11,000	44,000	.011767	.001000	.....	.....	
11,250	45,000	.012900	.001133	.....	.....	
11,500	46,000	.014667	.001767	.....	.....	
11,750	47,000	.015667	.001000	.....	.....	
12,000	48,000	.017067	.001400	.....	.....	
12,250	49,000	.018267	.001200	.....	.....	
12,500	50,000	.020100	.001833	.....	.....	
13,000	52,000	.023200	.003100	.....	.....	
13,500	54,000	.027067	.003867	.....	.....	
14,000	56,000	.030833	.003766	.....	.....	
14,500	58,000	.035000	.004167	.....	.....	
15,000	60,000	.040333	.005333	.....	.....	
15,500	62,000	.046000	.005667	.....	.....	
16,000	64,000	.055667	.009667	.....	.....	
16,500	66,000	.063333	.007666	.....	.....	
17,000	68,000	.078333	.015000	.....	.....	
17,500	70,000	.1000	.021667	.....	.....	
17,800	71,200	.1433	.0133	.....	.....	Tensile strength.

General summary.

Specific gravity		7.8588
Hardness		10.00
Tensile strength per square inch of original section	pounds	71,200
Elastic limit per square inch of original section	do	36,000
Elongation per inch after rupture	inch	0.2967
Elongation per inch under strain at elastic limit	do	.001167
Reduction in diameter at point of rupture	do	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		″.55 from neck
Character of broken surface		silky
Elongation of inch sections		″.39, ″.12, ″.10

No. 2141.

Marks, $\frac{8\,T_{60}}{B\,T_2\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000233	.000100	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001133	.000233	.000100	.000100	Elastic limit.
9,000	36,000	.003267	.002134	.....	.....	
9,250	37,000	.006000	.002733	.....	.....	
9,500	38,000	.007600	.001600	.....	.....	
9,750	39,000	.008667	.001067	.....	.....	
10,000	40,000	.009833	.001166	.....	.....	
10,250	41,000	.010933	.001100	.....	.....	
10,500	42,000	.012133	.001200	.....	.....	
10,750	43,000	.013133	.001000	.....	.....	
11,000	44,000	.014267	.001134	.....	.....	
11,250	45,000	.015667	.001400	.....	.....	
11,500	46,000	.016600	.000933	.....	.....	
11,750	47,000	.018067	.001467	.....	.....	
12,000	48,000	.019933	.001866	.....	.....	
12,250	49,000	.020933	.001000	.....	.....	
12,500	50,000	.022600	.001667	.....	.....	
12,750	51,000	.024100	.001500	.....	.....	
13,000	52,000	.026167	.002067	.....	.....	
13,250	53,000	.028000	.001833	.....	.....	
13,500	54,000	.030000	.002000	.....	.....	
13,750	55,000	.032000	.002000	.....	.....	
14,000	56,000	.033900	.001900	.....	.....	
14,250	57,000	.035833	.001933	.....	.....	
14,500	58,000	.038667	.002834	.....	.....	
14,750	59,000	.041167	.002500	.....	.....	
15,000	60,000	.044233	.003066	.....	.....	
15,500	62,000	.051667	.007434	.....	.....	
16,000	64,000	.058833	.007166	.....	.....	
16,500	66,000	.068667	.009834	.....	.....	
17,000	68,000	.0867	.018033	.....	.....	
17,500	70,000	.1100	.0233	.....	.....	
17,900	71,600	.1733	.0633	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	71,600
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2667
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		⅜ inch from middle of stem
Character of broken surface		silky; trace of granulation
Elongation of inch sections		″.23, ″.42*, ″.15

No. 2142.

Marks, $\frac{8\,T_4}{B\,T_2\,M}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	—.000033	—.000033	
2,500	10,000	.000200	.000100	—.000033	0.	
3,750	15,000	.000367	.000167	—.000033	0.	
5,000	20,000	.000533	.000166	—.000033	0.	
6,250	25,000	.000700	.000167	—.000033	0.	
7,500	30,000	.000867	.000167	—.000033	0.	
8,750	35,000	.001000	.000133	—.000033	0.	
9,000	36,000	.001033	.000033	.....	.....	
9,250	37,000	.001067	.000034	.....	.....	
9,500	38,000	.001133	.000066	.....	.....	
9,750	39,000	.001133	0.	.....	.....	
10,000	40,000	.001200	.000067	—.000033	0.	
10,250	41,000	.001233	.000033	.....	.....	
10,500	42,000	.001333	.000100	.....	.....	
10,750	43,000	.001400	.000067	.....	.....	Elastic limit.
11,000	44,000	.004500	.003100	.....	.....	
11,250	45,000	.005733	.001233	.....	.....	
11,500	46,000	.007400	.001667	.....	.....	
11,750	47,000	.008267	.000867	.....	.....	
12,000	48,000	.009333	.001066	.....	.....	
12,250	49,000	.010000	.000667	.....	.....	
12,500	50,000	.011500	.001500	.....	.....	
12,750	51,000	.012800	.001300	.....	.....	
13,000	52,000	.014000	.001200	.....	.....	
13,250	53,000	.015000	.001000	.....	.....	
13,500	54,000	.016167	.001167	.....	.....	
13,750	55,000	.017500	.001333	.....	.....	
14,000	56,000	.018933	.001433	.....	.....	
14,250	57,000	.020333	.001400	.....	.....	
14,500	58,000	.022167	.001834	.....	.....	
14,750	59,000	.023667	.001500	.....	.....	
15,000	60,000	.025333	.001666	.....	.....	
15,500	62,000	.028833	.003500	.....	.....	
16,000	64,000	.032667	.003834	.....	.....	
16,500	66,000	.037333	.004666	.....	.....	
17,000	68,000	.043000	.005667	.....	.....	
17,500	70,000	.049500	.006500	.....	.....	
18,000	72,000	.056667	.007167	.....	.....	
18,500	74,000	.0667	.010033	.....	.....	
19,000	76,000	.0867	.0200	.....	.....	
19,500	78,000	.1167	.0300	.....	.....	
19,580	78,320	.1467	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,320
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2500
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do...	.165
Reduction in area after rupture, per centum of original section		43.7
Position of rupture		at middle of sta
Character of broken surface		silky
Elongation of inch sections		".17, ".43", ".16

No. 2143.

Marks, $\frac{S\,T_e}{M\,T,\,I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000967	.000200	0.	.....	
8,750	35.000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001233	.000066	.....	.....	Elastic limit.
9,500	38,000	.001433	.000200	.....	.....	
9,750	39,000	.004300	.002867	.....	.....	
10,000	40,000	.007333	.003033	.....	.....	
10,250	41.000	.008200	.000867	.....	.....	
10,500	42,000	.009533	.001333	.....	.....	
10,750	43,000	.010333	.000800	.....	.....	
11,000	44,000	.011367	.001034	.....	.....	
11,250	45,000	.012267	.000900	.....	.....	
11,500	46,000	.013333	.001066	.....	.....	
11,750	47,000	.014167	.000834	.....	.....	
12,000	48,000	.015333	.001166	.....	.....	
12,250	49,000	.017000	.001667	.....	.....	
12,500	50,000	.018333	.001333	.....	.....	
13,000	52,000	.020000	.001667	.....	.....	
13,500	54,000	.023000	.003000	.....	.....	
14,000	56,000	.026500	.003500	.....	.....	
14,500	58,000	.031333	.004833	.....	.....	
15,000	60,000	.034500	.003167	.....	.....	
15,500	62,000	.037833	.003333	.....	.....	
16,000	64,000	.042667	.004834	.....	.....	
16,500	66,000	.049333	.006666	.....	.....	
17,000	68,000	.0567	.007367	.....	.....	
17,500	70,000	.0667	.0100	.....	.....	
18,000	72,000	.0767	.0100	.....	.....	
18,500	74,000	.1033	.0266	.....	.....	
18,890	75,560	.1600	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	75,560
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2667
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		½ inch from neck
Character of broken surface		silky
Elongation of inch sections		″.46, ″.23, ″.11

No. 2144.

Marks, $\frac{8\ T_{20}}{M\ T_2\ O}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000300	.000167	0.		
3,750	15,000	.000467	.000167	0.		
5,000	20,000	.000633	.000166	0.		
6,250	25,000	.000800	.000167	0.		
7,500	30,000	.000967	.000167	0.		
8,750	35,000	.001100	.000133	0.		
9,000	36,000	.001133	.000033			
9,250	37,000	.001167	.000034			
9,500	38,000	.001200	.000033			
9,750	39,000	.001233	.000033			
10,000	40,000	.001300	.000067	0.		
10,250	41,000	.001333	.000033			
10,500	42,000	.001367	.000034			
10,750	43,000	.001400	.000033			Elastic limit.
11,000	44,000	.004900	.003500			
11,250	45,000	.005600	.000700			
11,500	46,000	.006900	.001300			
11,750	47,000	.008233	.001333			
12,000	48,000	.009333	.001100			
12,250	49,000	.010033	.000700			
12,500	50,000	.011067	.001034			
12,750	51,000	.012067	.001000			
13,000	52,000	.013367	.001300			
13,250	53,000	.014600	.001233			
13,500	54,000	.015600	.001000			
13,750	55,000	.016600	.001000			
14,000	56,000	.018033	.001433			
14,250	57,000	.019667	.001634			
14,500	58,000	.021167	.001500			
14,750	59,000	.022167	.001000			
15,000	60,000	.024333	.002166			
15,500	62,000	.027333	.003000			
16,000	64,000	.030833	.003500			
16,500	66,000	.035000	.004167			
17,000	68,000	.040000	.005000			
17,500	70,000	.045000	.005000			
18,000	72,000	.051667	.006667			
18,500	74,000	.059333	.007666			
19,000	76,000	.0700	.010667			
19,500	78,000	.0900	.0200			
20,000	80,000	.1433	.0533			Tensile strength.

General summary.

Tensile strength per square inch of original section ..... pounds.. 80,000
Elastic limit per square inch of original section ..... do... 43,000
Elongation per inch after rupture ..... inch.. 0.2800
Elongation per inch under strain at elastic limit ..... do... .001400
Reduction in diameter at point of rupture ..... do... .076
Reduction in area after rupture, per centum of original section 30.6
Position of rupture ..... ½ inch from neck
Character of broken surface, granular, 60 per centum; dull silky, 40 per centum; opened cracks on surface of stem.
Elongation of inch sections ..... ″.24″, ″.16, ″.20

No. 2145.

Marks, $\frac{S\ T\ \text{Co}}{M\ T\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

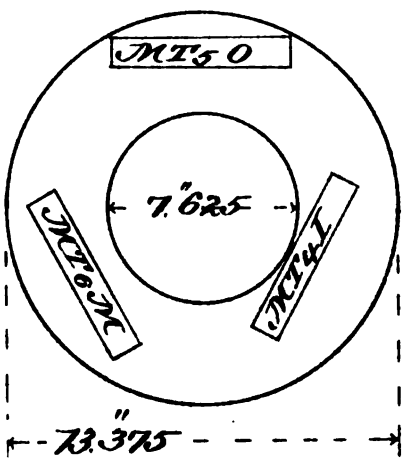
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001100	.000133	.....	.....	
9,000	36,000	.001167	.000067	.....	.....	Elastic limit.
9,250	37,000	.001300	.000133	.....	.....	
9,500	38,000	.004833	.003533	.....	.....	
9,750	39,000	.005833	.001000	.....	.....	
10,000	40,000	.007500	.001667	.....	.....	
10,250	41,000	.008833	.001333	.....	.....	
10,500	42,000	.009833	.001000	.....	.....	
10,750	43,000	.010667	.000834	.....	.....	
11,000	44,000	.011667	.001000	.....	.....	
11,250	45,000	.012700	.001033	.....	.....	
11,500	46,000	.014000	.001300	.....	.....	
11,750	47,000	.014933	.000933	.....	.....	
12,000	48,000	.016467	.001534	.....	.....	
12,250	49,000	.017667	.001200	.....	.....	
12,500	50,000	.019167	.001500	.....	.....	
12,750	51,000	.020600	.001433	.....	.....	
13,000	52,000	.021667	.001067	.....	.....	
13,250	53,000	.023067	.001400	.....	.....	
13,500	54,000	.024833	.001766	.....	.....	
13,750	55,000	.026367	.001534	.....	.....	
14,000	56,000	.028600	.002233	.....	.....	
14,250	57,000	.030167	.001567	.....	.....	
14,500	58,000	.032000	.001233	.....	.....	
14,750	59,000	.034000	.002000	.....	.....	
15,000	60,000	.037000	.003000	.....	.....	
15,500	62,000	.042167	.005167	.....	.....	
16,000	64,000	.048000	.005833	.....	.....	
16,500	66,000	.055833	.007833	.....	.....	
17,000	68,000	.063333	.007500	.....	.....	
17,500	70,000	.075000	.011667	.....	.....	
18,000	72,000	.1000	.0250	.....	.....	
18,420	73,680	.1433	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,680
Elastic limit per square inch of original section	do...	36,000
Elongation per inch after rupture	inch..	0.1933
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		".70 from neck
Character of broken surface, granular, 80 per centum; dull silky, 20 per centum; opened cracks in surface of stem.		
Elongation of inch sections		".33*, ".15, ".10

Tube No. 49 8" converted Rifle

Additional specimens



H Ex 31 49 2

No. 2371.

Marks, $\frac{8\ T_8}{M\ T_4\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000667	.000200	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001060	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
10,000	40,000	.001367	.000200	0.	.....	
10,250	41,000	.001433	.000066	.....	.....	Elastic limit.
10,500	42,000	.001767	.000334	.....	.....	
		.002167	.000400	.....	.....	
10,750	43,000	.002767	.000600	.....	.....	
11,000	44,000	.005033	.002266	.....	.....	
11,250	45,000	.006333	.001300	.....	.....	
11,500	46,000	.007867	.001534	.....	.....	
11,750	47,000	.008400	.000533	.....	.....	
12,000	48,000	.010000	.001600	.....	.....	
12,250	49,000	.011000	.001000	.....	.....	
12,500	50,000	.012067	.001067	.....	.....	
13,000	52,000	.014333	.002266	.....	.....	
13,500	54,000	.017233	.002900	.....	.....	
14,000	56,000	.019867	.002634	.....	.....	
14,500	58,000	.022667	.002800	.....	.....	
15,000	60,000	.025733	.003066	.....	.....	
15,500	62,000	.029500	.003767	.....	.....	
16,000	64,000	.033000	.003500	.....	.....	
16,500	66,000	.037333	.004333	.....	.....	
17,000	68,000	.042667	.005334	.....	.....	
17,500	70,000	.048833	.006166	.....	.....	
18,000	72,000	.056200	.007367	.....	.....	
18,500	74,000	.066167	.009967	.....	.....	
19,000	76,000	.0833	.017133	.....	.....	
19,500	78,000	.1067	.0234	.....	.....	
19,660	78,640	.1500	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,640
Elastic limit per square inch of original section	do...	41,000
Elongation per inch after rupture	inch..	0.2233
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		1 inch from neck
Character of broken surface		granular; dull spot at circumference
Diameter, ″.10 from point of rupture		″.41
Elongation of inch sections		″.38*, ″.17, ″.12

No. 2372.

Marks, $\frac{8\ T_S}{M\ T_S O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0..	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001167	.000200	0.	.....	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001267	.000067	.....	.....	Elastic limit.
9,500	38,000	.007733	.006466	.....	.....	
9,750	39,000	.008333	.000600	.....	.....	
10,000	40,000	.009333	.001000	.....	.....	
10,250	41,000	.010333	.001000	.....	.....	
10,500	42,000	.011500	.001167	.....	.....	
10,750	43,000	.012333	.000833	.....	.....	
11,000	44,000	.013633	.001300	.....	.....	
11,250	45,000	.014667	.001034	.....	.....	
11,500	46,000	.016067	.001400	.....	.....	
11,750	47,000	.017167	.001100	.....	.....	
12,000	48,000	.018667	.001500	.....	.....	
12,250	49,000	.019667	.001000	.....	.....	
12,500	50,000	.021167	.001500	.....	.....	
13,000	52,000	.024000	.002833	.....	.....	
13,500	54,000	.027667	.003667	.....	.....	
14,000	56,000	.031333	.003666	.....	.....	
14,500	58,000	.035333	.004000	.....	.....	
15,000	60,000	.040333	.005000	.....	.....	
15,500	62,000	.045667	.005334	.....	.....	
16,000	64,000	.052333	.006666	.....	.....	
16,500	66,000	.061333	.009000	.....	.....	
17,000	68,000	.0733	.011967	.....	.....	
17,500	70,000	.0867	.0134	.....	.....	
18,000	72,000	.1067	.0200	.....	.....	
18,480	73,920	.1733	.0666	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,920
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2167
Elongation per inch under strain at elastic limit	do ..	.001267
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		27.6
Position of rupture		".83 from neck
Character of broken surface, granular, 80 per centum; dull silky, 20 per centum; opened cracks in surface of stem.		
Elongation of inch sections		".15, ".20, ".30

No. 2373.

Marks, $\frac{S\ T_e}{M\ T_e\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.		Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000533	.000133	0.	.....	
6,250	25,000	.000700	.000167	0.	.....	
7,500	30,000	.000867	.000167	0.	.....	
8,750	35,000	.001033	.000166	0.	.....	
9,000	36,000	.001067	.000034	.....	.....	
9,250	37,000	.001100	.000033	.....	.....	
9,500	38,000	.001133	.000033	.....	.....	
9,750	39,000	.001200	.000067	.....	.....	
10,000	40,000	.001267	.000067	.000067	.000067	Elastic limit.
10,250	41,000	.002600	.001333	.....	.....	
10,500	42,000	.004000	.001400	.....	.....	
10,750	43,000	.005000	.001000	.....	.....	
11,000	44,000	.006333	.001333	.....	.....	
11,250	45,000	.007333	.001000	.....	.....	
11,500	46,000	.008333	.001000	.....	.....	
11,750	47,000	.009500	.001167	.....	.....	
12,000	48,000	.010500	.001000	.....	.....	
12,250	49,000	.011667	.001167	.....	.....	
12,500	50,000	.012833	.001166	.....	.....	
13,000	52,000	.014833	.002000	.....	.....	
13,500	54,000	.017333	.002500	.....	.....	
14,000	56,000	.019667	.002334	.....	.....	
14,500	58,000	.022833	.003166	.....	.....	
15,000	60,000	.026000	.003167	.....	.....	
15,500	62,000	.029333	.003333	.....	.....	
16,000	64,000	.033000	.003667	.....	.....	
16,500	66,000	.037333	.004333	.....	.....	
17,000	68,000	.042333	.005000	.....	.....	
17,500	70,000	.048333	.006000	.....	.....	
18,000	72,000	.056667	.008334	.....	.....	
18,500	74,000	.0667	.010033	.....	.....	
19,000	76,000	.0833	.0166	.....	.....	
19,500	78,000	.1067	.0234	.....	.....	
19,720	78,880	.1600	.0533	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,880
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.2067
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.094
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		1".10 from neck
Character of broken surface, granular; dull spot at circumference; opened small cracks in surface of stem.		
Elongation of inch sections		".24", ".22, ".16

No. 2175.

Marks, $\frac{8\ T_{50}}{B\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000900	.000133	0.	.....	
8,750	35,000	.001033	.000133	0.	.....	
9,000	36,000	.001100	.000067	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001233	.000066	.....	.....	Elastic limit.
10,000	40,000	.002600	.001367	.....	.....	
10,250	41,000	.003833	.001233	.....	.....	
10,500	42,000	.005700	.001867	.....	.....	
10,750	43,000	.006833	.001133	.....	.....	
11,000	44,000	.008167	.001334	.....	.....	
11,250	45,000	.009333	.001166	.....	.....	
11,500	46,000	.010500	.001167	.....	.....	
11,750	47,000	.011500	.001000	.....	.....	
12,000	48,000	.012833	.001333	.....	.....	
12,250	49,000	.014000	.001167	.....	.....	
12,500	50,000	.015333	.001333	.....	.....	
12,750	51,000	.016700	.001367	.....	.....	
13,000	52,000	.018067	.001367	.....	.....	
13,250	53,000	.020000	.001933	.....	.....	
13,500	54,000	.021667	.001667	.....	.....	
13,750	55,000	.023333	.001666	.....	.....	
14,000	56,000	.025333	.002000	.....	.....	
14,250	57,000	.026667	.001334	.....	.....	
14,500	58,000	.028333	.001666	.....	.....	
14,750	59,000	.030333	.002000	.....	.....	
15,000	60,000	.032367	.002034	.....	.....	
15,500	62,000	.036833	.0[illegible]466	.....	.....	
16,000	64,000	.042167	.005334	.....	.....	
16,500	66,000	.049000	.006833	.....	.....	
17,000	68,000	.057333	.008333	.....	.....	
17,500	70,000	.0667	.009367	.....	.....	
18,000	72,000	.0867	.0200	.....	.....	
18,500	74,000	.1233	.0366	.....	.....	
18,550	74,200	.1500	.0267	.....	.....	Tensile strength.

General summary.

Specific gravity	inch..	7.8584
Hardness		12.72
Tensile strength per square inch of original section	pounds..	74,200
Elastic limit per square inch of original section	do..	39,000
Elongation per inch after rupture	inch..	0.2367
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture	¾ inch from middle of stem	
Character of broken surface		silky
Elongation of inch sections		″.37, ″.22, ″.12

No. 2176.

Marks, $\frac{8\ T_{50}}{B\ T_2\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000533	.000133	0.	.....	
6,250	25,000	.000700	.000167	0.	.....	
7,500	30,000	.000867	.000167	0.	.....	
8,750	35,000	.001033	.000166	0.	.....	
9,000	36,000	.001067	.000034	.....	.....	
9,250	37,000	.001200	.000133	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	
9,750	39,000	.001267	.000034	.....	.....	Elastic limit.
10,000	40,000	.002600	.001333	.....	.....	
10,250	41,000	.004667	.002067	.....	.....	
10,500	42,000	.006233	.001566	.....	.....	
10,750	43,000	.007467	.001234	.....	.....	
11,000	44,000	.008667	.001200	.....	.....	
11,250	45,000	.009567	.000900	.....	.....	
11,500	46,000	.010733	.001166	.....	.....	
11,750	47,000	.012000	.001267	.....	.....	
12,000	48,000	.013200	.001200	.....	.....	
12,250	49,000	.014333	.001133	.....	.....	
12,500	50,000	.015500	.001167	.....	.....	
12,750	51,000	.016667	.001167	.....	.....	
13,000	52,000	.018000	.001333	.....	.....	
13,250	53,000	.019167	.001167	.....	.....	
13,500	54,000	.020667	.001500	.....	.....	
13,750	55,000	.022000	.001333	.....	.....	
14,000	56,000	.023667	.001667	.....	.....	
14,250	57,000	.025333	.001666	.....	.....	
14,500	58,000	.027000	.001667	.....	.....	
14,750	59,000	.029500	.002500	.....	.....	
15,000	60,000	.031167	.001667	.....	.....	
15,500	62,000	.035333	.004166	.....	.....	
16,000	64,000	.040000	.004667	.....	.....	
16,500	66,000	.045667	.005667	.....	.....	
17,000	68,000	.052500	.006833	.....	.....	
17,500	70,000	.060333	.007833	.....	.....	
18,000	72,000	.063333	.003000	.....	.....	
18,500	74,000	.0900	.026667	.....	.....	
19,000	76,000	.1333	.0433	.....	.....	
19,050	76,200	.1567	.0234	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,200
Elastic limit per square inch of original section	do...	39,000
Elongation per inch after rupture	inch..	0.2267
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		¼ inch from middle of stem
Character of broken surface		granular; dull spot at circumference
Elongation of inch sections		″.15, ″.36, ″.17

No. 2177.

Marks, $\frac{8\ T_{30}}{B\ T_2\ M}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000467	.000200	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001033	.000233	0.	.....	
8,500	34,000	.001167	.000134	.....	.....	Elastic limit.
8,750	35,000	.003000	.001833	.....	.....	
9,000	36,000	.006400	.003400	.....	.....	
9,250	37,000	.007667	.001267	.....	.....	
9,500	38,000	.009000	.001333	.....	.....	
9,750	39,000	.010400	.001400	.....	.....	
10,000	40,000	.011333	.000933	.....	.....	
10,250	41,000	.012333	.001000	.....	.....	
10,500	42,000	.013733	.001400	.....	.....	
10,750	43,000	.015067	.001334	.....	.....	
11,000	44,000	.016000	.000933	.....	.....	
11,250	45,000	.017233	.001233	.....	.....	
11,500	46,000	.018700	.001467	.....	.....	
11,750	47,000	.020033	.001333	.....	.....	
12,000	48,000	.021333	.001300	.....	.....	
12,250	49,000	.022667	.001334	.....	.....	
12,500	50,000	.025000	.002333	.....	.....	
13,000	52,000	.028000	.003000	.....	.....	
13,500	54,000	.032667	.004667	.....	.....	
14,000	56,000	.036667	.004000	.....	.....	
14,500	58,000	.041833	.005166	.....	.....	
15,000	60,000	.047333	.005500	.....	.....	
15,500	62,000	.054500	.007167	.....	.....	
16,000	64,000	.062333	.007833	.....	.....	
16,500	66,000	.0733	.010967	.....	.....	
17,000	68,000	.0933	.0200	.....	.....	
17,500	70,000	.1133	.0200	.....	.....	
17,870	71,480	.1767	.0634	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	71,480
Elastic limit per square inch of original section	do...	34,000
Elongation per inch after rupture	inch..	0.2667
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.115
Reduction in area after rupture, per centum of original section		36.4
Position of rupture	⅜ inch from middle of stem	
Character of broken surface	granular, 40 per centum; silky, 60 per centum	
Elongation of inch sections	″.21, ″.41, ″.18	

No. 2178.

Marks, $\frac{8\ T_{50}}{M\ T_1\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000800	.000200	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001100	.000133	0.	.....	
9,000	36,000	.001133	.000033	.....	.....	Elastic limit.
9,250	37,000	.001233	.000100	.....	.....	
9,500	38,000	.004000	.002767	.....	.....	
9,750	39,000	.007667	.003667	.....	.....	
10,000	40,000	.008667	.001000	.....	.....	
10,250	41,000	.009833	.001166	.....	.....	
10,500	42,000	.010667	.000834	.....	.....	
10,750	43,000	.011667	.001000	.....	.....	
11,000	44,000	.012833	.001166	.....	.....	
11,250	45,000	.013967	.001134	.....	.....	
11,500	46,000	.015400	.001433	.....	.....	
11,750	47,000	.016667	.001267	.....	.....	
12,000	48,000	.017833	.001166	.....	.....	
12,250	49,000	.018800	.000967	.....	.....	
12,500	50,000	.020133	.001333	.....	.....	
13,000	52,000	.022833	.002700	.....	.....	
13,500	54,000	.026000	.003167	.....	.....	
14,000	56,000	.029333	.003333	.....	.....	
14,500	58,000	.033000	.003667	.....	.....	
15,000	60,000	.036667	.003667	.....	.....	
15,500	62,000	.041600	.004933	.....	.....	
16,000	64,000	.046667	.005067	.....	.....	
16,500	66,000	.053333	.006666	.....	.....	
17,000	68,000	.060667	.007334	.....	.....	
17,500	70,000	.068333	.007666	.....	.....	
18,000	72,000	.0867	.018367	.....	.....	
18,500	74,000	.1033	.0166	.....	.....	
19,000	76,000	.1467	.0434	.....	.....	
19,010	76,040	.1667	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,040
Elastic limit per square inch of original section	do...	36,000
Elongation per inch after rupture	inch..	0.1933
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.074
Reduction in area after rupture, per centum of original section		24.6
Position of rupture		⅜ inch from middle of stem
Character of broken surface		granular; dull eccentric spot
Elongation of inch sections		″.20, ″.22*, ″.16

No. 2179.

Marks, $\frac{8\ T_{50}}{M\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000467	.000200	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001233	.000033	.....	.....	Elastic limit.
9,750	39,000	.001367	.000134	.....	.....	
10,000	40,000	.010000	.008633	.....	.....	
10,250	41,000	.010667	.000667	.....	.....	
10,500	42,000	.011600	.000933	.....	.....	
10,750	43,000	.012667	.001067	.....	.....	
11,000	44,000	.013700	.001033	.....	.....	
11,250	45,000	.014600	.000900	.....	.....	
11,500	46,000	.015733	.001133	.....	.....	
11,750	47,000	.016733	.001000	.....	.....	
12,000	48,000	.018267	.001534	.....	.....	
12,250	49,000	.019333	.001066	.....	.....	
12,500	50,000	.020500	.001167	.....	.....	
13,000	52,000	.023167	.002667	.....	.....	
13,500	54,000	.025833	.002666	.....	.....	
14,000	56,000	.029000	.003167	.....	.....	
14,500	58,000	.032333	.003333	.....	.....	
15,000	60,000	.036667	.004334	.....	.....	
15,500	62,000	.041167	.004500	.....	.....	
16,000	64,000	.045667	.004500	.....	.....	
16,500	66,000	.051000	.005333	.....	.....	
17,000	68,000	.057067	.006067	.....	.....	
17,500	70,000	.0667	.009633	.....	.....	
18,000	72,000	.0800	.0133	.....	.....	
18,500	74,000	.0967	.0167	.....	.....	
19,000	76,000	.1133	.0166	.....	.....	
19,420	77,680	.1700	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,68[illegible]
Elastic limit per square inch of original section	do...	38,[illegible]
Elongation per inch after rupture	inch..	0.2[illegible]
Elongation per inch under strain at elastic limit	do...	.00[illegible]
Reduction in diameter at point of rupture	do...	.11[illegible]
Reduction in area after rupture, per centum of original section		3[illegible]
Position of rupture		".20 from middle of stee[illegible]
Character of broken surface		silky; slightly granular
Elongation of inch sections		".18, ".25*, ".17

No. 2180.

Marks, $\frac{8\ T_{50}}{M\ T_3\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001067	.000134	0.	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001200	.000033	.....	.....	
10,000	40,000	.001233	.000033	.....	.....	
10,250	41,000	.001267	.000034	.....	.....	
10,500	42,000	.001333	.000066	.....	.....	
10,750	43,000	.001400	.000067	.....	.....	Elastic limit.
11,000	44,000	.012600	.001200	.....	.....	
11,250	45,000	.013000	.000400	.....	.....	
11,500	46,000	.013733	.000733	.....	.....	
11,750	47,000	.014667	.000934	.....	.....	
12,000	48,000	.015667	.001000	.....	.....	
12,250	49,000	.016667	.001000	.....	.....	
12,500	50,000	.018000	.001333	.....	.....	
13,000	52,000	.020000	.002000	.....	.....	
13,500	54,000	.022667	.002667	.....	.....	
14,000	56,000	.025333	.002666	.....	.....	
14,500	58,000	.028067	.002734	.....	.....	
15,000	60,000	.031167	.003100	.....	.....	
15,500	62,000	.035000	.003833	.....	.....	
16,000	64,000	.039167	.004167	.....	.....	
16,500	66,000	.043333	.004166	.....	.....	
17,000	68,000	.048667	.005334	.....	.....	
17,500	70,000	.054000	.005333	.....	.....	
18,000	72,000	.061333	.007333	.....	.....	
18,500	74,000	.0700	.008667	.....	.....	
19,000	76,000	.0800	.0100	.....	.....	
19,500	78,000	.1000	.0200	.....	.....	
20,000	80,000	.1333	.0333	.....	.....	
20,060	80,240	.1433	.0100	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,240
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.1567
Elongation per inch under strain at elastic limit	do...	.001400
Reduction in diameter at point of rupture	do ..	.054
Reduction in area after rupture, per centum of original section		18.3
Position of rupture		¾ inch from neck
Character of broken surface		granular, 50 per centum; dull flaky, 50 per centum
Elongation of inch sections		″.17*, ″.14, ″.16

[Additional specimens.]

No. 2534.

Marks, $\frac{8\ T_{50}}{B\ T_4\ I}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000400	.000233	0.	.....	
3,750	15,000	.000567	.000167	0.	.....	
5,000	20,000	.000767	.000200	0.	.....	
6,250	25,000	.000933	.000166	0.	.....	
7,500	30,000	.001067	.000134	0.	.....	
8,750	35,000	.001267	.000200	.....	.....	Elastic limit.
9,000	36,000	.001400	.000133	.....	.....	
9,250	37,000	.001500	.000100	.....	.....	
9,500	38,000	.008000	.006500	.....	.....	
9,750	39,000	.009167	.001167	.....	.....	
10,000	40,000	.010033	.000866	.....	.....	
10,500	42,000	.012833	.002800	.....	.....	
11,000	44,000	.015333	.002500	.....	.....	
11,500	46,000	.017667	.002334	.....	.....	
12,000	48,000	.020667	.003000	.....	.....	
12,500	50,000	.023333	.002666	.....	.....	
13,000	52,000	.026367	.003034	.....	.....	
13,500	54,000	.030000	.003633	.....	.....	
14,000	56,000	.034500	.004500	.....	.....	
14,500	58,000	.038667	.004167	.....	.....	
15,000	60,000	.0433	.004633	.....	.....	
15,500	62,000	.0500	.0067	.....	.....	
16,000	64,000	.0600	.0100	.....	.....	
16,500	66,000	.0700	.0100	.....	.....	
17,000	68,000	.0767	.0067	.....	.....	
17,500	70,000	.0967	.0200	.....	.....	
18,000	72,000	.1367	.0400	.....	.....	
18,160	72,640	.1733	.0366	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	72,64[illegible]
Elastic limit per square inch of original section	do	35,[illegible]
Elongation per inch after rupture	inch	0.[illegible]
Elongation per inch under strain at elastic limit	do	.001[illegible]
Reduction in diameter at point of rupture	do	.[illegible]
Reduction in area after rupture, per centum of original section		[illegible]
Position of rupture		″.65 from neck
Character of broken surface	granular; opened cracks in surface of stem	
Elongation of inch sections		″.19, ″.25, ″.[illegible]

No. 2535.

Marks, $\frac{8\,T_{50}}{B\,T_5\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000767	.000134	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001167	.000067	.....	.....	
9,250	37,000	.001233	.000066	.....	.....	
9,500	38,000	.001300	.000067	.....	.....	Elastic limit.
9,750	39,000	.006167	.004867	.....	.....	
10,000	40,000	.008400	.002233	.....	.....	
10,500	42,000	.010667	.002267	.....	.....	
11,000	44,000	.012700	.002033	.....	.....	
11,500	46,000	.015200	.002500	.....	.....	
12,000	48,000	.017833	.002633	.....	.....	
12,500	50,000	.020500	.002667	.....	.....	
13,000	52,000	.024333	.003833	.....	.....	
13,500	54,000	.027667	.003333	.....	.....	
14,000	56,000	.031067	.003400	.....	.....	
14,500	58,000	.036667	.005600	.....	.....	
15,000	60,000	.0400	.003333	.....	.....	
15,500	62,000	.0467	.0067	.....	.....	
16,000	64,000	.0533	.0066	.....	.....	
16,500	66,000	.0600	.0067	.....	.....	
17,000	68,000	.0700	.0100	.....	.....	
17,500	70,000	.0900	.0200	.....	.....	
18,000	72,000	.1067	.0167	.....	.....	
18,390	73,560	.1767	.0700	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,560
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2900
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.194
Reduction in area after rupture, per centum of original section		57.0
Position of rupture		1″.70 from neck
Character of broken surface		silky
Elongation of inch sections		″.21, ″.47*, ″.19

No. 2536.

Marks, $\overset{8\ T_{80}}{B\ T_8\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000367	.000200	0.	.....	
3,750	15,000	.000500	.000133	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001033	.000200	0.	.....	
8,750	35,000	.001233	.000200	.....	.....	Elastic limit.
9,000	36,000	.001367	.000134	.....	.....	
9,250	37,000	.008367	.007000	.....	.....	
9,500	38,000	.009167	.000800	.....	.....	
9,750	39,000	.009900	.000733	.....	.....	
10,000	40,000	.011033	.001133	.....	.....	
10,500	42,000	.013167	.002134	.....	.....	
11,000	44,000	.015667	.002500	.....	.....	
11,500	46,000	.018000	.002333	.....	.....	
12,000	48,000	.020400	.002400	.....	.....	
12,500	50,000	.023167	.002767	.....	.....	
13,000	52,000	.026167	.003000	.....	.....	
13,500	54,000	.029700	.003533	.....	.....	
14,000	56,000	.033567	.003867	.....	.....	
14,500	58,000	.0367	.003133	.....	.....	
15,000	60,000	.0400	.0033	.....	.....	
15,500	62,000	.0467	.0067	.....	.....	
16,000	64,000	.0567	.0100	.....	.....	
16,500	66,000	.0633	.0066	.....	.....	
17,000	68,000	.0700	.0067	.....	.....	
17,500	70,000	.0833	.0133	.....	.....	
18,000	72,000	.1033	.0200	.....	.....	
18,500	74,000	.1300	.0267	.....	.....	
18,720	74,880	.1833	.0533	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	74,880
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2333
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do ..	.104
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		1″.70 from neck
Character of broken surface		silky
Elongation of inch sections		″.19, ″.34, ″.17

No. 2537.

Marks, $\frac{8\ T_{50}}{M\ T_4\ I}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	.....	.....	
9,000	36,000	.001167	.000067	.....	.....	
9,250	37,000	.001200	.000033	.....	.....	
9,500	38,000	.001267	.000067	.....	.....	Elastic limit.
9,750	39,000	.010333	.009066	.....	.....	
10,000	40,000	.011033	.000700	.....	.....	
10,500	42,000	.012533	.001500	.....	.....	
11,000	44,000	.014667	.002134	.....	.....	
11,500	46,000	.016833	.002166	.....	.....	
12,000	48,000	.019000	.002167	.....	.....	
12,500	50,000	.021667	.002667	.....	.....	
13,000	52,000	.025000	.003333	.....	.....	
13,500	54,000	.028667	.003667	.....	.....	
14,000	56,000	.031333	.002666	.....	.....	
14,500	58,000	.0333	.001967	.....	.....	
15,000	60,000	.0400	.0067	.....	.....	
15,500	62,000	.0433	.0033	.....	.....	
16,000	64,000	.0500	.0067	.....	.....	
16,500	66,000	.0533	.0033	.....	.....	
17,000	68,000	.0633	.0100	.....	.....	
17,500	70,000	.0700	.0067	.....	.....	
18,000	72,000	.0867	.0167	.....	.....	
18,500	74,000	.1000	.0133	.....	.....	
19,000	76,000	.1367	.0367	.....	.....	
19,100	76,400	.1767	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,400
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.2033
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		″.65 from neck
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		″.14, ″.17, ″.30*

No. 2538.

Marks, $\overset{8\ T_{50}}{M\ T_8\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000233	.000100	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000767	.000200	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001033	.000100	.....	.....	
9,000	36,000	.001067	.000034	.....	.....	
9,250	37,000	.001100	.000033	.....	.....	
9,500	38,000	.001167	.000067	.....	.....	Elastic limit.
9,750	39,000	.001267	.000100	.....	.....	
10,000	40,000	.006333	.005066	.....	.....	
10,500	42,000	.010833	.004500	.....	.....	
11,000	44,000	.012333	.001500	.....	.....	
11,500	46,000	.014400	.002067	.....	.....	
12,000	48,000	.017000	.002600	.....	.....	
12,500	50,000	.019167	.002167	.....	.....	
13,000	52,000	.021667	.002500	.....	.....	
13,500	54,000	.024500	.002833	.....	.....	
14,000	56,000	.028000	.003500	.....	.....	
14,500	58,000	.031000	.003000	.....	.....	
15,000	60,000	.035167	.004167	.....	.....	
15,500	62,000	.0367	.001533	.....	.....	
16,000	64,000	.0433	.0066	.....	.....	
16,500	66,000	.0533	.0100	.....	.....	
17,000	68,000	.0600	.0067	.....	.....	
17,500	70,000	.0667	.0067	.....	.....	
18,000	72,000	.0800	.0133	.....	.....	
18,500	74,000	.0967	.0167	.....	.....	
19,000	76,000	.1267	.0300	.....	.....	
19,150	76,600	.1667	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	76,600
Elastic limit per square inch of original section	do...	38,000
Elongation per inch after rupture	inch..	0.256
Elongation per inch under strain at elastic limit	do ..	.001167
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1″.28 from neck
Character of broken surface		silky, with slight granulation
Elongation of inch sections		″.28, ″.31, ″.15

No. 2539.

Marks, $\frac{8\ T_{50}}{M\ T_6\ M}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000700	.000133	0.	.....	
7,500	30,000	.000867	.000167	0.	.....	
8,750	35,000	.001067	.000200	.....	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	Elastic limit.
9,500	38,000	.007933	.006800	.....	.....	
9,750	39,000	.009700	.001767	.....	.....	
10,000	40,000	.010367	.000667	.....	.....	
10,500	42,000	.012500	.002133	.....	.....	
11,000	44,000	.015133	.002633	.....	.....	
11,500	46,000	.017067	.001934	.....	.....	
12,000	48,000	.019700	.002633	.....	.....	
12,500	50,000	.022667	.002967	.....	.....	
13,000	52,000	.025667	.003000	.....	.....	
13,500	54,000	.029333	.003666	.....	.....	
14,000	56,000	.033000	.003667	.....	.....	
14,500	58,000	.037367	.004367	.....	.....	
15,000	60,000	.0433	.005933	.....	.....	
15,500	62,000	.0500	.0067	.....	.....	
16,000	64,000	.0567	.0067	.....	.....	
16,500	66,000	.0633	.0066	.....	.....	
17,000	68,000	.0733	.0100	.....	.....	
17,500	70,000	.0933	.0200	.....	.....	
18,000	72,000	.1133	.0200	.....	.....	
18,360	73,440	.1733	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	73,440
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2367
Elongation per inch under strain at elastic limit	do...	.001133
Reduction in diameter at point of rupture	do...	.105
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		1″.65 from neck

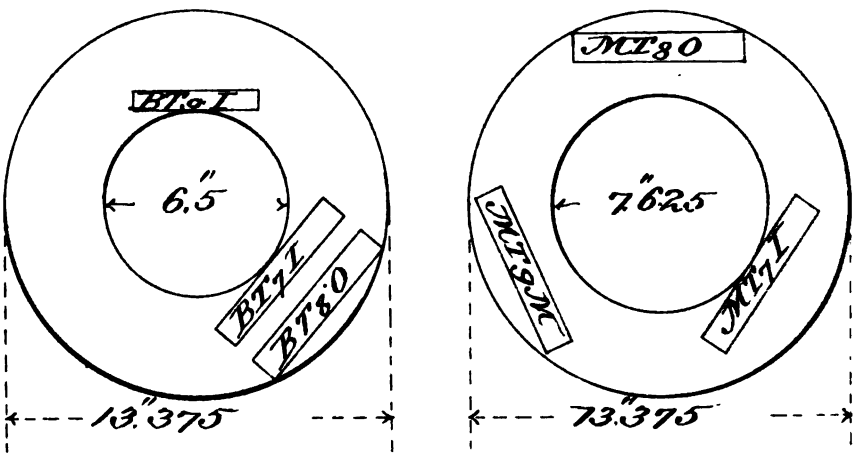
Character of broken surface, granular; dull flaky spot at circumference; opened cracks in surface of stem.

Diameter .1 inch from point of rupture ..... ″.45

Elongation of inch sections ..... ″.21, ″.34*, ″.16

Tube No. 50 8" converted Rifle

Additional specimens



H Ex 31 49 2

No. 2729.

Marks, $\frac{8\ Cu\ R_2\ T}{B\ T, I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
9,000	36,000	.001100	0.	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001167	.000034	.....	.....	
9,750	39,000	.001233	.000066	.....	.....	
10,000	40,000	.001267	.000034	.....	.....	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001333	.000033	.....	.....	
10,750	43,000	.001367	.000034	.....	.....	
11,000	44,000	.001400	.000033	.....	.....	
11,250	45,000	.001467	.000067	.....	.....	
11,500	46,000	.001500	.000033	.....	.....	Elastic limit.
11,750	47,000	.001600	.000100	.....	.....	
12,000	48,000	.004233	.002633	.....	.....	
12,500	50,000	.007533	.003300	.....	.....	
13,000	52,000	.009867	.002334	.....	.....	
13,500	54,000	.012433	.002566	.....	.....	
14,000	56,000	.014733	.002300	.....	.....	
14,500	58,000	.017600	.002867	.....	.....	
15,000	60,000	.020233	.002633	.....	.....	
15,500	62,000	.023367	.003134	.....	.....	
16,000	64,000	.026833	.003466	.....	.....	
16,500	66,000	.030933	.004100	.....	.....	
17,000	68,000	.035000	.004067	.....	.....	
17,500	70,000	.038333	.003333	.....	.....	
18,000	72,000	.041667	.003334	.....	.....	
18,500	74,000	.0533	.011633	.....	.....	
19,000	76,000	.0667	.0134	.....	.....	
19,500	78,000	.0833	.0166	.....	.....	
20,000	80,000	.1267	.0434	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,000
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.1300
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.064
Reduction in area after rupture, per centum of original section		21.4
Position of rupture		1 inch from neck
Character of broken surface, granular; dull flaky spot at the circumference; opened cracks in surface of stem.		
Elongation of inch sections		″.11, ″.13, ″.15

No. 2730.

Marks, $\frac{8\,Cn\,R_{50}\,T}{B\,T_{8}\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001167	.000034	.....	.....	
9,250	37,000	.001233	.000066	.....	.....	
9,500	38,000	.001267	.000034	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	
10,000	40,000	.001333	.000033	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	
11,000	44,000	.001467	.000034	.....	.....	
11,250	45,000	.001467	0.	.....	.....	
11,500	46,000	.001567	.000100	.....	.....	
11,750	47,000	.001633	.000066	.....	.....	
12,000	48,000	.001667	.000034	.....	.....	
12,250	49,000	.001700	.000033	.....	.....	
12,500	50,000	.001733	.000033	.....	.....	
12,750	51,000	.001767	.000034	.....	.....	
13,000	52,000	.001800	.000033	.....	.....	
13,250	53,000	.001867	.000067	.....	.....	Elastic limit.
13,500	54,000	.003100	.001233	.....	.....	
13,750	55,000	.005500	.002400	.....	.....	
14,000	56,000	.006667	.001167	.....	.....	
14,500	58,000	.009367	.002700	.....	.....	
15,000	60,000	.011767	.002400	.....	.....	
15,500	62,000	.014133	.002366	.....	.....	
16,000	64,000	.016600	.002467	.....	.....	
16,500	66,000	.019367	.002767	.....	.....	
17,000	68,000	.022033	.002666	.....	.....	
17,500	70,000	.025000	.002967	.....	.....	
18,000	72,000	.028667	.003667	.....	.....	
18,500	74,000	.032667	.004000	.....	.....	
19,000	76,000	.037233	.004566	.....	.....	
19,500	78,000	.0400	.002767	.....	.....	
20,000	80,000	.0467	.0067	.....	.....	
20,500	82,000	.0567	.0100	.....	.....	
21,000	84,000	.0667	.0100	.....	.....	
21,500	86,000	.0900	.0233	.....	.....	
21,800	87,200	.1333	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,200
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch...	0.19867
Elongation per inch under strain at elastic limit	do...	.001867
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		1″.56 from neck
Character of broken surface		silky; trace of granulation
Elongation of inch sections		″.12, ″.35*, ″.12

No. 2731.

Marks, $\frac{8\ Cn\ R_{38}\ T}{B\ T_2\ I}$
Diameter, ″.505.
Sectional area, .20 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
200	1,000	0.	0.	0.	0.	Initial load.
1,000	5,000	.000050	.000050	0.		
2,000	10,000	.000200	.000150	0.		
3,000	15,000	.000350	.000150	0.		
4,000	20,000	.000550	.000200	0.		
5,000	25,000	.000800	.000250	0.		
6,000	30,000	.000950	.000150	0.		
7,000	35,000	.001100	.000150	0.		
8,000	40,000	.001300	.000200	0.		
8,200	41,000	.001450	.000150			
8,400	42,000	.001500	.000050			
8,600	43,000	.001550	.000050			
8,800	44,000	.001600	.000050			
9,000	45,000	.001600	0.			
9,200	46,000	.001650	.000050			
9,400	47,000	.001650	0.			
9,600	48,000	.001700	.000050			
9,800	49,000	.001750	.000050			Elastic limit.
10,000	50,000	.003250	.001500			
10,200	51,000	.005450	.002200			
10,400	52,000	.006750	.001300			
10,600	53,000	.007900	.001150			
10,800	54,000	.009150	.001250			
11,000	55,000	.010050	.000900			
11,200	56,000	.011400	.001350			
11,600	58,000	.014350	.002950			
12,000	60,000	.016500	.002150			
12,400	62,000	.019600	.003100			
12,800	64,000	.022500	.002900			
13,200	66,000	.025600	.003100			
13,600	68,000	.029400	.003800			
14,000	70,000	.032850	.003450			
14,400	72,000	.038100	.005250			
14,800	74,000	.043400	.005300			
15,200	76,000	.050050	.006650			
15,600	78,000	.052500	.002450			
16,000	80,000	.0650	.0125			
16,400	82,000	.0950	.0300			
16,700	83,500	.1550	.0600			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	83,500
Elastic limit per square inch of original section	do	49,000
Elongation per inch after rupture	inch	0.2250
Elongation per inch under strain at elastic limit	do	.001750
Reduction in diameter at point of rupture	do	.125
Reduction in area after rupture, per centum of original section		43.3
Position of rupture		″.75 from neck
Character of broken surface		silky, opened cracks in surface of stem
Elongation of inch sections		″.12, ″.33

No. 2732.

Marks, $\frac{8\ Cn\ K_{co}\ T}{M\ T_r\ I}$
Diameter ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001100	.000167	0.	.....	
10,000	40,000	.001300	.000200	0.	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	
11,000	44,000	.001433	.000033	.....	.....	
11,250	45,000	.001467	.000034	.....	.....	
11,500	46,000	.001500	.000033	.....	.....	
11,750	47,000	.001533	.000033	.....	.....	
12,000	48,000	.001567	.000034	.....	.....	
12,250	49,000	.001600	.000033	.....	.....	
12,500	50,000	.001667	.000067	.....	.....	Elastic limit.
12,750	51,000	.001933	.000266	.....	.....	
13,000	52,000	.003400	.001467	.....	.....	
13,250	53,000	.004567	.001167	.....	.....	
13,500	54,000	.006533	.001966	.....	.....	
14,000	56,000	.008933	.002400	.....	.....	
14,500	58,000	.011333	.002400	.....	.....	
15,000	60,000	.013567	.002234	.....	.....	
15,500	62,000	.016000	.002433	.....	.....	
16,000	64,000	.018600	.002600	.....	.....	
16,500	66,000	.021367	.002767	.....	.....	
17,000	68,000	.024267	.002900	.....	.....	
17,500	70,000	.027600	.003333	.....	.....	
18,000	72,000	.031267	.003667	.....	.....	
18,500	74,000	.035000	.003733	.....	.....	
19,000	76,000	.038333	.003333	.....	.....	
19,500	78,000	.041667	.003334	.....	.....	
20,000	80,000	.0533	.011633	.....	.....	
20,500	82,000	.0633	.0100	.....	.....	
21,000	84,000	.0767	.0134	.....	.....	
21,500	86,000	.1100	.0333	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	86,000
Elastic limit per square inch of original section	do	50,000
Elongation per inch after rupture	inch	0.1467
Elongation per inch under strain at elastic limit	do	.001667
Reduction in diameter at point of rupture	do	.054
Reduction in area after rupture, per centum of original section		18.3
Position of rupture		1".35 from neck
Character of broken surface		granular; flaky spot at circumference
Elongation of inch sections		".10, ".22", ".12

No. 2733.

Marks, $\frac{8\ Cu\ R_{50}\ T}{M\ T_3\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads. Total.	Applied loads. Per square inch.	Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000800	.000200	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001300	.000167	0.	.....	
10,250	41,000	.001300	0.	.....	.....	
10,500	42,000	.001333	.000033	.....	.....	
10,750	43,000	.001367	.000034	.....	.....	
11,000	44,000	.001400	.000033	.....	.....	
11,250	45,000	.001433	.000033	.....	.....	
11,500	46,000	.001500	.000067	.....	.....	Elastic limit.
11,750	47,000	.002400	.000900	.....	.....	
12,000	48,000	.004267	.001867	.....	.....	
12,250	49,000	.005667	.001400	.....	.....	
12,500	50,000	.006733	.001066	.....	.....	
13,000	52,000	.009100	.002367	.....	.....	
13,500	54,000	.011600	.002500	.....	.....	
14,000	56,000	.013733	.002133	.....	.....	
14,500	58,000	.016267	.002534	.....	.....	
15,000	60,000	.018567	.002300	.....	.....	
15,500	62,000	.021500	.002933	.....	.....	
16,000	64,000	.024500	.003000	.....	.....	
16,500	66,000	.027733	.003233	.....	.....	
17,000	68,000	.031333	.003600	.....	.....	
17,500	70,000	.035733	.004400	.....	.....	
18,000	72,000	.038333	.002600	.....	.....	
18,500	74,000	.0433	.004967	.....	.....	
19,000	76,000	.0533	.0100	.....	.....	
19,500	78,000	.0633	.0100	.....	.....	
20,000	80,000	.0733	.0100	.....	.....	
20,500	82,000	.0967	.0234	.....	.....	
21,000	84,000	.1600	.0633	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section.....pounds.. 84,000
Elastic limit per square inch of original section .....do... 46,000
Elongation per inch after rupture.....inch.. 0.1800
Elongation per inch under strain at elastic limit .....do... .001500
Reduction in diameter at point of rupture.....do... .074
Reduction in area after rupture, per centum of original section 24.6
Position of rupture .....1″.10 from neck
Character of broken surface, granular; dull flaky spot at the circumference; opened cracks in surface of stem.
Elongation of inch sections.....″.14, ″.15, ″.25

No. 2734.

Marks, $\frac{8\ Cn\ R_{50}\ T}{M\ T_9\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000033	.000033	0.	.....	
2,500	10,000	.000233	.000200	0.	.....	
3,750	15,000	.000333	.000100	0.	.....	
5,000	20,000	.000567	.000234	0.	.....	
6,250	25,000	.000700	.000134	0.	.....	
7,500	30,000	.000900	.000200	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001267	.000200	0.	.....	
10 250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001333	.000033	.....	.....	
10,750	43,000	.001367	.000034	.....	.....	
11,000	44,000	.001400	.000033	.....	.....	
11,250	45,000	.001433	.000033	.....	.....	
11,500	46,000	.001467	.000034	.....	.....	
11,750	47,000	.001567	.000100	.....	.....	
12,000	48,000	.001633	.000066	.....	.....	
12,250	49,000	.001733	.000100	.....	.....	Elastic limit.
12,500	50,000	.002333	.000600	.....	.....	
12,750	51,000	.003567	.001234	.....	.....	
13,000	52,000	.004833	.001266	.....	.....	
13,500	54,000	.007333	.002500	.....	.....	
14,000	56,000	.009933	.002600	.....	.....	
14,500	58,000	.012033	.002100	.....	.....	
15,000	60,000	.014367	.002334	.....	.....	
15,500	62,000	.017033	.002666	.....	.....	
16,000	64,000	.019433	.002400	.....	.....	
16,500	66,000	.022333	.002900	.....	.....	
17,000	68,000	.025367	.003034	.....	.....	
17,500	70,000	.028833	.003466	.....	.....	
18,000	72,000	.032600	.003767	.....	.....	
18,500	74,000	.036900	.004300	.....	.....	
19,000	76,000	.041667	.004767	.....	.....	
19,500	78,000	.0467	.005033	.....	.....	
20,000	80,000	.0600	.0133	.....	.....	
20,500	82,000	.0667	.0067	.....	.....	
20,600	82,400	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,400
Elastic limit, per square inch of original section	do ..	49,000
Elongation per inch after rupture	inch..	0.0700
Elongation per inch under strain at elastic limit	do...	.001733
Reduction in diameter at point of rupture	do...	.634
Reduction in area after rupture, per centum of original section		11.8
Position of rupture		″.53 from neck
Character of broken surface	granular; flaky spot at circumference	
Elongation of inch sections		″.08″, ″.06, ″.07

TABULATION OF SPECIMENS FROM TUBES FOR 8-INCH CONVERTED RIFLES.

No. of test.	Position in gun.	Location of specimens.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.	Hardness.	Remarks.
			Pounds.	*Pounds.*	*Per cent.*	*Per cent.*				
2341	Breech No. 7	Inside	37,000	70,720	18.0	21.4	Granular; defective spot			Additional specimen.
2342	do	do	34,000	69,920	13.3	18.3	do			Do.
2343	do	do	37,000	68,000	10.7	15.0	do			Do.
2344	Muzzle No. 7	do	41,000	78,880	26.0	44.6	Silky			Do.
2346	do	Outside	39,000	76,440	27.0	49.7	do			Do.
2345	do	Middle	37,000	79,160	23.7	44.6	do			Do.
2662	Breech No. 7	Inside	33,000	70,280	26.7	49.7	do			New tube.
2663	do	Outside	33,000	73,960	20.0	30.6	Silky; flaky			Do.
2664	do	Middle	32,000	71,520	26.0	36.4	Silky; surface cracks			Do.
2665	Muzzle No. 7	Inside	39,000	77,080	22.7	44.6	Silky			Do.
2666	do	Outside	37,000	78,200	20.7	44.6	do			Do.
2667	do	Middle	38,000	77,520	20.0	41.9	do			Do.
2779	Breech No. 7	Inside	40,000	80,800	18.0	39.2	Silky; flaky			Additional specimen.
2780	do	Outside	43,000	84,840	18.7	44.6	Silky			Do.
2781	do	Middle	38,000	76,560	20.3	44.6	Silky; surface cracks			Do.
2782	Muzzle No. 7	Inside	46,000	82,800	20.3	49.7	Silky			Do.
2783	do	Outside	41,000	78,360	19.7	44.6	do			Do.
2784	do	Middle	38,000	80,240	19.0	52.2	do			Do.
2146	Breech No. 8	Inside	35,000	70,200	26.0	44.6	Silky; surface cracks	7.8591	11.23	New tube.
2147	do	Outside	37,000	73,520	25.0	47.[illegible]	do			Do.
2148	do	Middle	41,000	76,080	23.0	3[illegible]	do			Do.
2149	Muzzle No. 8	Inside	35,000	75,160	21.7	39.2	Silky			Do.
2150	do	Outside	37,000	77,640	23.[illegible]	36.4	Granular, 60 per cent.; silky, 40 per cent.			Do.
2151	do	Middle	41,000	80,060	23.3	39.2	Granular, 50 per cent.; silky, 50 per cent.			Do.
1000	Breech No. 9	Inside	44,000	77,120	25.3	47.2	Silky			Additional specimen.
2164	Breech No. 12	do	39,000	76,680	26.3	52.2	do	7.8588	13.14	New tube.
2165	do	Outside	41,000	78,320	21.0	47.2	do			Do.
2166	do	Middle	40,000	75,000	29.3	47.2	do			Do.
2167	Muzzle No. 12	Inside	43,000	79,040	24.0	44.6	do			Do.
2168	do	Outside	41,000	76,840	23.0	52.2	do			Do.
2169	do	Middle	40,000	75,280	25.7	44.6	Silky; slight granulation			Do.
2181	Breech No. 13	Inside	41,000	75,520	26.7	54.6	Silky			Do.
2182	do	Outside	44,000	78,800	26.0	52.2	do			Do.
2183	do	Middle	40,000	77,000	24.3	52.2	do			Do.
2184	Muzzle No. 13	Inside	43,000	76,800	25.7	47.2	do			Do.
2185	do	Outside	41,000	77,840	23.3	54.6	do			Do.
2186	do	Middle	46,000	80,400	24.7	49.7	do			Do.
2350	Breech No. 15	Inside	43,000	70,320	30.0	59.3	do			Do.
2351	do	Outside	46,000	71,200	28.7	59.3	do			Do.

TABULATION OF SPECIMENS FROM TUBES FOR 8-INCH CONVERTED RIFLES—Continued.

No. of test.	Position in gun.	Location of specimens.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.	Hardness.	Remarks.
			Pounds.	*Pounds.*	*Per cent.*	*Per cent.*				
2352	Breech No. 15	Middle	40,000	70,200	30.7	57.0	Silky			New tube.
2353	Muzzle No. 15	Inside	41,000	75,160	29.3	57.0	Silky; surface cracks			Do.
2354	do	Outside	43,000	76,400	25.0	57.0	Silky			Do.
2355	do	Middle	39,000	72,000	27.3	52.2	do			Do.
2618	Breech No. 15	Inside	43,000	80,720	22.0	49.7	Silky; surface cracks			Do.
2619	do	Outside	42,000	81,840	22.3	54.6	Silky			Do.
2620	do	Middle	42,000	80,760	20.3	49.7	do			Do.
2621	Muzzle No. 15	Inside	45,000	87,680	22.3	49.7	do			Do.
2622	do	Outside	47,000	87,920	18.3	49.7	do			Do.
2623	do	Middle	45,000	86,080	19.3	47.2	do			Do.
2365	Breech No. 16	Inside	39,000	72,000	19.3	27.6	Granular; dull spot			Do.
2366	do	Outside	38,000	76,120	22.3	36.4	do			Do.
2367	do	Middle	40,000	75,520	24.3	57.0	Silky			Do.
2368	Muzzle No. 16	Inside	39,000	77,680	20.3	41.9	Granular, 70 per cent.; silky, 30 per cent.			Do.
2369	do	Outside	42,000	80,440	24.7	52.2	Silky			Do.
2370	do	Middle	40,000	78,000	23.3	49.7	Silky; trace of granulation			Do.
2555	Breech No. 16	Inside	43,000	76,080	17.7	24.6	Granular; flaky spot			Additional specimen
2556	do	Outside	39,000	76,640	26.3	54.6	Silky			Do.
2557	do	Middle	40,000	76,320	24.0	41.9	do			Do.
2612	do	Inside	45,000	77,200	25.7	57.0	Silky; surface cracks			Do.
2613	do	Outside	38,000	74,000	25.3	49.7	Silky			Do.
2614	do	Middle	39,000	76,000	26.0	52.2	do			Do.
997	Breech No. 18	Inside	31,000	71,630	28.0	44.6	do			Do.
998	do	Outside	37,000	74,480	19.3	33.5	Granular; dull spot			Do.
999	do	Middle	34,000	71,920	14.7	21.4	Granular; blow hole			Do.
2125	do	Inside	31,000	70,840	27.7	41.9	Silky; slight granulation			Do.
2126	do	Outside	35,000	73,040	31.0	49.7	Silky			Do.
2127	do	Middle	32,000	70,860	14.3	21.4	Granular; dull spot			Do.
2420	do	Inside	38,000	72,560	25.7	44.6	Silky; surface cracks			New tube.
2421	do	Outside	37,000	73,120	24.3	49.7	do			Do.
2422	do	Middle	40,000	75,000	24.0	41.9	do			Do.
2423	Muzzle No. 18	Inside	38,000	73,840	16.0	21.4	Granular; flaky spot			Do.
2424	do	Outside	41,000	76,360	17.7	21.4	Granular; dull spot			Do.
2425	do	Middle	36,000	72,600	19.7	27.6	Granular, 40 per cent.; silky, 60 per cent.			Do.
2630	Breech No. 18	Inside	41,000	76,440	20.3	36.4	Silky; surface cracks			Additional specimen.
2631	do	Outside	44,000	82,840	20.7	44.6	do			Do.
2632	do	Middle	42,000	78,800	20.3	41.9	do			Do.
2633	Muzzle No. 18	Inside	44,000	80,800	13.7	30.6	Granular; flaky spot			Do.
2634	do	Outside	41,000	82,800	17.0	30.6	Granular, 70 per cent.; silky, 30 per cent.			Do.
2635	do	Middle	39,000	76,000	19.3	44.6	Silky			Do.
2636	do	Inside	44,000	81,920	14.0	24.6	Granular; flaky spot			Do.

[illegible]	....do	Middle	40,000	[illegible]	[illegible]	44.6	Silky; surface cracks		
2170	Breech No. 19	Inside	35,000	74,840	18.7	49.7	Silky		Do.
2171	....do	Outside	39,000	74,040	20.7	39.2	....do		Do.
2217	... do	Middle	35,000	78,800	22.7	47.2	.....do		Do.
2173	Muzzle No. 19	Inside	44,000	76,480	21.3	36.4	.....do		Do.
2174	....do	Outside	45,000	80,080	22.3	44.6	.....do		Do.
2499	Breech No. 19	Inside	38,000	80,840	23.0	41.9	.....do		Do.
2500	... do	Outside	35,000	71,960	27.3	59.3	.....do		New tube.
2501	... do	Middle	35,000	71,920	25.3	57.0	....do		Do.
2502	Muzzle No. 19	Inside	41,000	67,280	30.7	57.0	Silky; surface cracks		Do.
2503	....do	Outside	41,000	77,920	17.3	30.6	Granular, dull spot		Do.
2504	... do	Middle	39,000	76,800	26.3	54.6	Silky		Do.
2624	Breech No. 19	Inside	41,000	75,040	33.7	54.6	....do		Do.
2625	... do	Outside	37,000	76,720	23.3	44.6	Silky; surface cracks		Additional specimen.
2626	do	Middle	38,000	75,800	23.3	41.9	Silky		Do.
2627	Muzzle No. 19	Inside	40,000	75,280	23.7	52.2	.....do		Do.
2628	....do	Outside	46,000	78,800	21.3	57.0	.....do		Do.
2629	... do	Middle	45,000	83,600	20.7	49.7	.....do		Do.
1160	Breech No. 23	Inside	48,000	82,240	20.3	39.2	.....do		Do.
1161	Breech No. 26	Outside	40,000	79,040	20.3	30.6	Granular; crack ".3 in surface		Do.
1162	Muzzle No. 26	Inside	45,000	77,000	10.7	15.0	Granular; dull metal at circumference.		Do.
2359	Breech No. 26	... do	41,000	84,760	22.3	49.7	Silky		Do.
2360	....do	Outside	41,000	68,640	28.0	65.8	.....do		New tube.
2361	... do	Middle	38,000	69,200	29.7	59.3	.....do		Do.
2362	Muzzle No. 26	Inside	41,000	69,920	30.3	63.7	.....do		Do.
2363	....do	Outside	40,000	75,400	24.7	54.6	.... do		Do.
2364	...do	Middle	40,000	74,000	23.7	52.2	.....do		Do.
2594	Breech No. 26	Inside	43,000	76,200	25.7	49.7	.....do		Do.
2595	... do	Outside	42,000	76,200	24.3	57.0	Fine silky		Additional specimen.
2596	....do	Middle	42,000	77,800	26.3	59.3	Silky		Do.
2597	Muzzle No. 26	Inside	44,000	78,080	27.0	57.0	.....do		Do.
2598	....do	Outside	42,000	83,600	18.7	49.7	.....do		Do.
2599	...do	Middle	42,000	81,760	22.3	49.7	.....do		Do.
2487	Breech No. 27	Inside	42,000	81,040	22.7	47.2	.... do		Do.
2488	....do	Outside	37,000	68,720	24.3	27.6	Granular; flaky spot		
2489	...do	Middle	39,000	72,080	27.0	49.7	Silky		
2490	Muzzle No. 27	Inside	39,000	72,080	28.7	54.6	Silky; surface cracks		
2491	....do	Outside	39,000	75,520	23.0	49.7	Silky		
2492	....do	Middle	41,000	79,120	26.0	44.6	.....do		
2636	Breech No. 27	Inside	41,000	80,800	22.0	36.4	.... do		
2637	... do	Outside	42,000	78,320	20.0	39.2	Silky; surface cracks		Additional specimen.
2638	....do	Middle	39,000	77,520	26.7	54.6	.... do		Do.
2639	Muzzle No. 27	Inside	40,000	77,240	25.7	54.6	Silky		Do.
2640	....do	Outside	43,000	78,400	20.3	49.7	.....do		Do.
2641	....do	Middle	43,000	82,440	19.3	39.2	Granular, 70 per cent.; silky, 30 per cent.		Do.
2692	....do	Inside	43,000	82,280	15.0	27.6	Granular; dull spot		Do.
2693	....do	Outside	42,000	82,880	22.7	47.2	Silky		Do.
2694	... do	Middle	45,000	82,720	23.7	49.7	.... do		Do.
1683	Breech No. 32	Inside	41,000	80,200	16.0	18.3	Granular; flaky spot		Do.
1684	....do	Outside	38,000	75,960	26.0	41.9	Silky		Do.
			37,000	75,800	23.3	39.2	Granular; dull spot		Do.

TABULATION OF SPECIMENS FROM TUBES FOR 8-INCH CONVERTED RIFLES—Continued.

No. of test.	Position in gun.	Location of specimens.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.	Hardness.	Remarks.
			Pounds.	*Pounds.*	*Per cent.*	*Per cent.*				
1685	Breech No. 32	Middle	38,000	76,720	26.0	47.2	Silky			Additional specimen.
1686	Muzzle No. 32	Inside	47,000	81,160	14.3	21.4	Granular with dull-colored metal			Do.
1687	do	Outside	45,000	82,080	21.3	41.9	Granular; dull-center			Do.
1688	do	Middle	42,000	80,760	16.7	27.6	Granular; dull-colored spot			Do.
2347	do	Inside	34,000	72,640	18.3	27.6	Granular; flaky spot			Do.
2348	do	Outside	38,000	75,840	22.7	33.5	Granular; dull spot			Do.
2349	do	Middle	35,000	73,520	13.7	21.4	Granular			Do.
2668	Breech No. 32	Inside	35,000	72,440	29.3	49.7	Silky			New tube.
2669	do	Outside	36,000	76,960	25.7	54.6	do			Do.
2670	do	Middle	35,000	74,800	25.3	49.7	do			Do.
2671	Muzzle No. 32	Inside	41,000	79,920	20.3	49.7	do			Do.
2672	do	Outside	42,000	82,000	22.0	47.2	do			Do.
2673	do	Middle	38,000	76,600	22.3	49.7	do			Do.
1001	Breech No. 35	Inside	37,000	73,040	27.7	49.7	do	7.8552	11.49	
1002	do	Outside	41,000	75,800	25.3	52.2	do			
1003	do	Middle	38,000	75,200	26.0	52.2	do			
1004	Muzzle No. 35	Inside	46,000	78,000	21.3	41.9	Silky, 50 per cent.; granular, 50 per cent.	7.8517	13.65	
1005	do	Outside	44,000	79,200	26.3	49.7	Silky			
1006	do	Middle	40,000	77,480	26.3	49.7	do			
1007	Breech No. 36	Inside	38,000	72,200	27.0	54.6	do	7.8577	11.92	
1008	do	Outside	42,000	78,280	27.0	44.6	do			
1009	do	Middle	39,000	75,440	24.7	44.6	do			
1010	Muzzle No. 36	Inside	42,000	78,440	21.7	33.5	Granular, 60 per cent.; silky, 40 per cent.	7.8556	13.33	
1011	do	Outside	43,000	79,560	27.0	47.2	Silky with fine granulation			
1012	do	Middle	41,000	77,400	19.7	24.6	Granular; dull spot			
2122	do	Inside	38,000	79,360	23.0	39.2	Silky, 90 per cent.; granular, 10 per cent.			Additional specimen.
2123	do	Outside	38,000	77,000	22.3	44.6	Silky			Do.
2124	do	Middle	40,000	76,000	22.3	41.9	Silky; slight granulation			Do.
992	Breech No. 37	Inside	43,000	77,760	20.7	27.6	Granular, dull spot			
992½	do	Outside	38,000	76,520	21.7	36.4	Silky, 90 per cent.; granular, 10 per cent.			
993	do	Middle	37,000	78,160	20.0	24.6	Granular; dull spot			
994	Muzzle No. 37	Inside	41,000	79,280	17.3	18.8	do			
995	do	Outside	41,000	77,960	30.3	47.2	Fine silky			
996	do	Middle	41,000	82,320	18.0	18.3	Dull-colored, furrowed surface; small granular section			
2128	Breech No. 37	Inside	41,000	72,240	24.3	44.6	Silky			Additional specimen.
2129	do	Outside	41,000	78,000	23.3	39.2	Silky; surface cracks			Do.

2130	....do	Middle	41,000	73,960	21.3	33.5	Granular, 50 per cent.; silky, 50 per cent.			Do.
2131	Muzzle No. 37	Inside	43,000	72,120	27.7	47.2	Silky; surface cracks			Do.
2132	....do	Outside	43,000	74,800	28.3	54.6	Silky			Do.
2133	....do	Middle	41,000	73,560	27.3	44.6	Silky; traces of granulation			Do.
2092	Breech No. 38	Inside	44,000	79,640	25.0	54.6	Silky			
2093	... do	Outside	46,000	86,200	23.7	49.7	..... do			
2094	... do	Middle	41,000	76,560	26.7	52.2	.....do			
2095	Muzzle No. 38	Inside	42,000	82,440	24.3	49.7	.....do			
2096	....do	Outside	40,000	79,840	23.0	49.7	.....do			
2097	... do	Middle	44,000	85,200	25.7	47.2	Silky; trace of granulation			
2134	Breech No. 39	Inside	46,000	75,480	27.0	57.0	Silky; surface cracks			
2135	....do	Outside	41,000	73,400	26.0	39.2	..... do			
2136	....do	Middle	42,000	74,720	24.7	47.2	.....do			
2137	Muzzle No. 39	Inside	45,000	76,100	23.3	49.7	.....do			
2138	... do	Outside	41,000	75,480	16.7	24.6	Granular; dull spot			
2139	....do	Middle	42,000	76,880	19.3	24.6	.....do			
2484	....do	Inside	43,000	76,000	24.3	54.6	Silky			Additional specimen.
2485	....do	Outside	44,000	77,400	20.0	41.9	Silky; slight granulation			Do.
2486	....do	Middle	42,000	75,760	22.3	30.6	Granular; dull spot			Do.
1129	Breech No. 40	Inside	40,000	72,720	26.7	47.2	Silky	7.8556	11.92	
1130	... do	Outside	40,000	74,960	25.3	44.6	.....do			
1131	.. do	Middle	35,000	71,680	23.3	49.7	.....do			
1132	Muzzle No. 40	Inside	34,000	72,800	24.0	41.9	.....do	7.8528	11.59	
1133	... do	Outside	36,000	77,120	23.7	24.6	Granular; flaky spot			
1134	.. do	Middle	35,000	76,000	23.7	36.4	Silky			
2098	Breech No. 41	Inside	40,000	76,760	29.7	59.3	.....do			
2099	....do	Outside	44,000	82,400	16.7	24.6	Granular; dull spot			
2100	....do	Middle	41,000	79,640	24.3	47.2	Silky; trace of granulation			
2101	Muzzle No. 41	Inside	48,000	87,640	13.3	44.6	Granular; small dull spot			
2102	... do	Outside	50,000	87,960	19.3	39.2	Granular; dull spot			
2103	....do	Middle	47,000	80,320	17.3	39.2	Granular; dull center			
2478	Breech No. 41	Inside	39,000	74,600	27.0	57.0	Silky			Additional specimen.
2479	....do	Outside	43,000	78,240	24.3	54.6	.....do			Do.
2480	... do	Middle	40,000	75,400	26.0	57.0	.....do			Do.
2481	Muzzle No. 41	Inside	44,000	77,120	16.7	21.4	Granular; flaky spot			Do.
2482	....do	Outside	44,000	76,240	24.3	47.2	Silky			Do.
2483	....do	Middle	43,000	77,400	23.3	49.7	..... do			Do.
2558	... do	Inside	43,000	76,000	20.0	41.9	.....do			Do.
2559	... do	Outside	39,000	75,640	27.3	52.2	.....do			Do.
2560	....do	Middle	38,000	76,560	17.7	24.6	Granular; flaky spot			Do.
1135	Breech No. 42	Inside	38,000	73,600	24.0	36.4	Silky; surface cracks	7.8590	12.36	
1136	....do	Outside	39,000	74,440	28.3	57.0	Silky			
1137	... do	Middle	35,000	71,520	26.7	44.6	Silky; surface cracks			
1138	Muzzle No. 42	Inside	40,000	78,880	22.0	47.2	Silky	7.8544	14.98	
1139	Muzzle No. 42	Outside	42,000	80,560	24.3	47.2	.....do			
1140	... do	Middle	36,000	76,080	20.0	21.4	Granular; dull, flaky spot			
1141	Breech No. 43	Inside	40,000	74,800	25.0	49.7	Silky	7.8571	12.72	
1142	....do	Outside	40,000	76,040	24.0	52.2	.....do			
1143	.. do	Middle	39,000	75,040	29.0	54.6	.....do			
1144	Muzzle No. 43	Inside	37,000	78,440	23.3	39.2	Silky; slightly granular	7.8537	12.78	
1145	... do	Outside	38,000	75,920	24.3	39.2	Silky			

TABULATION OF SPECIMENS FROM TUBES FOR 8-INCH CONVERTED RIFLES—Continued.

No. of test.	Position in gun.	Location of specimens.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.	Hardness.	Remarks.
			Pounds.	*Pounds.*	*Per cent.*	*Per cent.*				
1140	Muzzle No. 43	Middle	37,000	78,680	20.3	21.4	Granular; dull flaky spot			
2152	Breech No. 44	Inside	40,000	75,400	17.7	47.2	Granular, 70 per cent.; dull silky, 30 per cent.	7.8568	12.36	
2153	do	Outside	44,000	77,600	26.0	52.2	Silky			
2154	do	Middle	41,000	78,000	26.3	52.2	do			
2155	Muzzle No. 44	Inside	46,000	81,640	15.7	21.4	Granular; dull spot			
2156	do	Outside	43,000	78,080	24.3	49.7	Silky			
2157	do	Middle	39,000	76,400	17.7	24.6	Granular; dull spot			
2723	Breech No. 44	Inside	41,000	81,000	22.7	52.2	Silky			New tube.
2724	do	Outside	41,000	83,000	22.3	49.7	do			Do.
2725	do	Middle	41,000	76,000	25.7	52.2	do			Do.
2726	Muzzle No. 44	Inside	42,000	80,000	21.0	33.5	Granular; flaky streak			Do.
2727	do	Outside	43,000	81,000	14.3	18.3	do			Do.
2728	do	Middle	41,000	81,200	23.3	47.2	Silky			Do.
2768	do	Inside	42,000	80,080	15.7	21.4	Granular; flaky spot			Additional specimen.
2769	do	Outside	44,000	82,000	20.3	30.6	Silky			Do.
2770	do	Middle	42,000	80,640	21.7	49.7	do			Do.
2104	Breech No. 45	Inside	40,000	74,040	27.0	44.6	Silky; surface cracks	7.8583	12.42	
2105	do	Outside	41,000	76,480	24.3	47.2	do			
2106	do	Middle	39,000	72,360	26.7	49.7	do			
2107	Muzzle No. 45	Inside	43,000	80,000	22.3	41.9	Silky			
2108	do	Outside	40,000	75,880	22.3	49.7	do			
2109	do	Middle	35,000	72,840	24.7	33.5	Silky; surface cracks			
2110	Breech No. 46	Inside	44,000	75,880	24.7	57.0	Silky	7.8632	12.14	
2111	do	Outside	40,000	74,760	25.7	52.2	do			
2112	do	Middle	39,000	73,040	27.0	57.0	do			
2113	Muzzle No. 46	Inside	45,000	82,840	19.7	36.4	Granular; dull spot			
2114	do	Outside	43,000	81,200	20.0	24.6	do			
2115	do	Middle	40,000	78,680	25.7	44.6	Silky			
2356	do	Inside	43,000	80,800	25.7	52.2	do			Additional specimen.
2357	do	Outside	42,000	81,600	19.0	27.6	Granular; dull spot			Do.
2358	do	Middle	41,000	81,040	19.7	24.6	Granular; dull metal			Do.
2434	Breech No. 46	Inside	43,000	75,240	28.7	59.3	Silky			Do.
2435	Muzzle No. 46	do	40,000	76,800	23.0	52.2	do			Do.
2436	do	Outside	35,000	73,240	21.7	36.4	Granular; flaky spot			Do.
2437	do	Middle	34,000	73,120	23.3	30.6	do			
2116	Breech No. 47	Inside	42,000	74,440	27.7	54.6	Silky; surface cracks	7.8607	11.81	
2117	do	Outside	39,000	70,520	28.3	54.6	Silky			
2118	do	Middle	38,000	69,200	28.0	54.6	Silky; surface cracks			
2119	Muzzle No. 47	Inside	39,000	72,240	29.3	49.7	do			
2120	do	Outside	41,000	72,080	26.7	44.6	do			

2121	....do	Middle	35,000	73,560	23.3	36.4	Silky			
2158	Breech No. 48	Inside	35,000	68,200	27.7	41.9	Granular, 50 per cent.; silky, 50 per cent.	7.8586	10.01	
2159	....do	Outside	37,000	72,640	22.7	41.9	Silky			
2160	....do	Middle	37,000	71,720	26.0	47.2	.....do			
2161	Muzzle No. 48	Inside	40,000	75,920	15.0	18.3	Granular, 15 per cent.; dull flaky, 85 per cent.			
2162	....do	Outside	38,000	72,800	24.0	41.9	Silky			
2163	..do	Middle	37,000	71,520	23.3	39.2	.....do			
2493	Breech No. 48	Inside	39,000	71,040	29.7	59.3	.....do			Additional specimen.
2494	...do	Outside	37,000	70,000	28.7	57.0	.....do			Do.
2495	...do	Middle	36,000	70,360	25.7	41.9	.....do			Do.
2496	Muzzle No. 48	Inside	39,000	74,040	20.3	30.6	Granular; dull flaky spot			Do.
2497	...do	Outside	38,000	72,640	28.0	49.7	Silky			Do.
2498	...do	Middle	37,000	72,400	25.7	52.2	.....do			Do.
2713	Breech No. 48	Inside	49,000	81,920	21.7	47.2	Silky; surface cracks			Do.
2717	.. do	....do	50,000	84,950	25.0	51.9	Silky			Do.
2718	....do	....do	49,000	82,500	23.5	43.3	.....do			Do.
2719	.. do	Outside	54,000	85,500	25.0	49.1	Silky; surface cracks			Do.
2714	Muzzle No. 48	Inside	51,000	86,600	13.3	21.4	Granular			Do.
2715	.. do	Outside	49,000	85,600	19.3	44.6	Silky			Do.
2716	...do	Middle	50,000	88,240	21.3	46.3	.....do			Do.
2735	.. do	Inside	41,000	80,200	20.0	52.2	.....do			Do.
2736	.. do	Outside	42,000	78,720	25.7	49.7	.....do			Do.
2737	...do	Middle	42,000	82,160	22.7	36.4	Granular, 60 per cent.; silky, 40 per cent.			Do.
2140	Breech No. 49	Inside	36,000	71,200	20.7	49.7	Silky	7.8598	10.60	
2141	.. do	Outside	35,000	71,600	26.7	49.7	Silky; trace of granulation			
2142	.. do	Middle	43,000	78,320	25.0	49.7	Silky			
2143	Muzzle No. 49	Inside	37,000	75,560	26.7	52.2	.....do			
2144	.. do	Outside	44,000	80,000	20.0	30.6	Granular, 60 per cent.; dull silky, 40 per cent.			
2145	.. do	Middle	36,000	73,680	19.3	36.4	Granular, 80 per cent.; dull silky, 20 per cent.			
2371	...do	Inside	41,000	78,640	22.3	41.9	Granular; dull spot			Additional specimen.
2372	.. do	Outside	37,000	73,920	21.7	27.6	Granular, 80 per cent.; dull silky, 20 per cent.			Do.
2373	.. do	Middle	40,000	78,880	20.7	30.6	Granular; dull spot			Do.
2175	Breech No. 50	Inside	39,000	74,200	23.7	49.7	Silky	7.8584	12.72	
2176	.. do	Outside	39,000	76,200	22.7	36.4	Granular; dull spot			
2177	.. do	Middle	34,000	71,480	26.7	36.4	Granular, 40 per cent.; silky, 60 per cent.			
2178	Muzzle No. 50	Inside	36,000	76,040	19.3	24.6	Granular; dull spot			
2179	.. do	Outside	38,000	77,680	23.3	36.4	Silky; slightly granular			
2180	.. do	Middle	43,000	80,240	15.7	18.3	Granular, 50 per cent.; dull flaky, 50 per cent.			
2534	Breech No. 50	Inside	35,000	72,640	22.3	21.4	Granular; surface cracks			Additional specimen.
2535	.. do	Outside	38,000	73,560	29.0	57.0	Silky			Do.
2536	.. do	Middle	35,000	74,880	23.3	33.5	.....do			Do.
2537	Muzzle No. 50	Inside	38,000	76,400	20.3	33.5	Granular, 60 per cent.; silky, 40 per cent.			Do.
2538	....do	Outside	38,000	76,000	25.7	47.2	Silky; slight granulation			Do.

TABULATION OF SPECIMENS FROM TUBES FOR 8-INCH CONVERTED RIFLES—Continued.

No. of test.	Position in gun.	Location of specimens.	Elastic limit per square inch.	Tensile strength per square inch.	Elongation.	Contraction of area.	Appearance of fracture.	Specific gravity.	Hardness.	Remarks.
			Pounds.	*Pounds.*	*Per cent.*	*Per cent.*				
2539	Muzzle No. 50	Middle	37,000	73,440	23.7	33.5	Granular; dull flaky spot			Additional specimen.
2729	Breech No. 50	Inside	46,000	80,000	13.0	21.4	do			Do.
2730	do	Outside	53,000	87,200	19.7	41.9	Silky; trace of granulation			Do.
2731	do	Inside	49,000	83,500	22.5	43.3	Silky; surface cracks			Do.
2732	Muzzle No. 50	do	50,000	86,000	14.7	18.3	Granular; flaky spot			Do.
2733	do	Outside	46,000	84,000	18.0	24.6	do			Do.
2734	do	Middle	49,000	82,400	7.0	11.8	do			Do.

REJECTED TUBE NO. 15, 8-INCH CONVERTED RIFLE.

Steel specimens taken from muzzle end, after a piece of the tube 15 nches long had been heated by pouring molten cast-iron about it. Earlier tests from this tube published in Report of Tests, 1885.

See Chief of Ordnance Report, 1885. Appendix 30.

REJECTED TUBE NO. 15, 8-INCH CONVERTED RIFLE.

No. 1026.

Marks, $\frac{8\ T_{15}}{M\ T_4\ I}$
Diameter, ".563.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000200	.000100	0.	.....	
3,750	15,000	.000367	.000167	0.	.....	
5,000	20,000	.000533	.000166	0.	.....	
6,250	25,000	.000633	.000100	— .000033	.000033	
7,500	30,000	.000800	.000167	— .000033	0.	
8,750	35,000	.001000	.000200	— .000033	0.	
10,000	40,000	.001133	.000133	— .000033	0.	
11,250	45,000	.001267	.000134	0.	.000033	Elastic limit.
11,500	46,000	.001367	.000100	.....	.....	
11,750	47,000	.003110	.001733	.....	.....	
12,000	48,000	.004100	.001000	.....	.....	
12,250	49,000	.004900	.000800	.....	.....	
12,500	50,000	.009033	.004133	.007333	.007333	
12,750	51,000	.009667	.000634	.....	.....	
13,000	52,000	.010333	.000666	.....	.....	
13,250	53,000	.011400	.001067	.....	.....	
13,500	54,000	.013100	.001700	.....	.....	
13,750	55,000	.014333	.001233	.....	.....	
14,000	56,000	.015800	.001467	.....	.....	
14,250	57,000	.017100	.001300	.....	.....	
14,500	58,000	.018400	.001300	.....	.....	
14,750	59,000	.020167	.001767	.....	.....	
15,000	60,000	.022000	.001833	.....	.....	
15,500	62,000	.025033	.003033	.....	.....	
16,000	64,000	.028367	.003334	.....	.....	
16,500	66,000	.033667	.005300	.....	.....	
17,000	68,000	.038333	.004666	.....	.....	
17,500	70,000	.044667	.003634	.....	.....	
18,000	72,000	.0533	.008633	.....	.....	
18,500	74,000	.0633	.0100	.....	.....	
19,000	76,000	.0733	.0100	.....	.....	
19,500	78,000	.1000	.0267	.....	.....	
19,620	78,480	.1367	.0367	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,480
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		".43*, ".12, ".08

No. 1027.

Marks, $\frac{S\ T_{15}}{M\ T_{50}}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000200	.000100	0.	.....	
3,750	15,000	.000367	.000167	0.	.....	
5,000	20,000	.000533	.000166	0.	.....	
6,250	25,000	.000700	.000167	0.	.....	
7,500	30,000	.000867	.000167	0.	.....	
8,750	35,000	.001033	.000166	0.	.....	
10,000	40,000	.001200	.000167	0.	.....	
10,250	41,000	.001233	.000033	.....	.....	
10,500	42,000	.001267	.000034	.....	.....	
10,750	43,000	.001300	.000033	.....	.....	Elastic limit.
11,000	44,000	.001400	.000100	.....	.....	
11,250	45,000	.006633	.005233	.004967	.004967	
11,500	46,000	.007667	.001034	.....	.....	
11,750	47,000	.008500	.000833	.....	.....	
12,000	48,000	.009167	.000667	.....	.....	
12,250	49,000	.010067	.000900	.....	.....	
12,500	50,000	.011367	.001300	.009567	.004600	
12,750	51,000	.012000	.000633	.....	.....	
13,000	52,000	.012767	.000767	.....	.....	
13,250	53,000	.014067	.001300	.....	.....	
13,500	54,000	.015433	.001366	.....	.....	
13,750	55,000	.016667	.001234	.....	.....	
14,000	56,000	.018067	.001400	.....	.....	
14,250	57,000	.019500	.001433	.....	.....	
14,500	58,000	.020767	.001267	.....	.....	
14,750	59,000	.022067	.001300	.....	.....	
15,000	60,000	.023767	.001700	.....	.....	
15,500	62,000	.027000	.003233	.....	.....	
16,000	64,000	.030267	.003267	.....	.....	
16,500	66,000	.034267	.004000	.....	.....	
17,000	68,000	.038667	.004400	.....	.....	
17,500	70,000	.043667	.005000	.....	.....	
18,000	72,000	.0533	.009633	.....	.....	
18,500	74,000	.0633	.0100	.....	.....	
19,000	76,000	.0733	.0100	.....	.....	
19,500	78,000	.0900	.0167	.....	.....	
20,000	80,000	.1200	.0300	.....	.....	
20,060	80,240	.1667	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	80,2[illegible]
Elastic limit per square inch of original section	do	43,[illegible]
Elongation per inch after rupture	inch	0.[illegible]
Elongation per inch under strain at elastic limit	do	.001[illegible]
Reduction in diameter at point of rupture	do	.14[illegible]
Reduction in area after rupture, per centum of original section		44
Position of rupture		½ inch from middle of [illegible]
Character of broken surface		[illegible]
Elongation of inch sections		".21, ".40[illegible]

No. 1028.

Marks, $\frac{8\,T_{15}}{M\,T_6\,O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000300	.000200	0.	.....	
3,750	15,000	.000433	.000133	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000933	.000166	0.	.....	
8,750	35,000	.001067	.000134	.....	.....	
9,000	36,000	.001100	.000033	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001200	.000067	.....	.....	
9,750	39,000	.001267	.000067	.....	.....	
10,000	40,000	.001333	.000066	.000067	.000067	Elastic limit.
10,250	41,000	.002733	.001400	.....	.....	
10,500	42,000	.003600	.000867	.....	.....	
10,750	43,000	.003900	.000300	.....	.....	
11,000	44,000	.004867	.000967	.....	.....	
11,250	45,000	.005833	.000966	.004267	.001200	
11,500	46,000	.006667	.000834	.....	.....	
11,750	47,000	.008667	.002000	.....	.....	
12,000	48,000	.010333	.001666	.....	.....	
12,250	49,000	.011333	.001000	.....	.....	
12,500	50,000	.012433	.001100	.010667	.006400	
12,750	51,000	.013067	.000634	.....	.....	
13,000	52,000	.014167	.001100	.....	.....	
13,250	53,000	.015500	.001333	.....	.....	
13,500	54,000	.017133	.001633	.....	.....	
13,750	55,000	.018267	.001134	.....	.....	
14,000	56,000	.019567	.001300	.....	.....	
14,250	57,000	.021067	.001500	.....	.....	
14,500	58,000	.022667	.001600	.....	.....	
14,750	59,000	.023967	.001300	.....	.....	
15,000	60,000	.025800	.001833	.....	.....	
15,500	62,000	.029667	.003867	.....	.....	
16,000	64,000	.033167	.003500	.....	.....	
16,500	66,000	.037667	.004500	.....	.....	
17,000	68,000	.042833	.005166	.....	.....	
17,500	70,000	.049000	.006167	.....	.....	
18,000	72,000	.0567	.0077	.....	.....	
18,500	74,000	.0700	.0133	.....	.....	
19,000	76,000	.0900	.0200	.....	.....	
19,400	77,600	.1300	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,600
Elastic limit per square inch of original section	do...	40,000
Elongation per inch after rupture	inch..	0.1900
Elongation per inch under strain at elastic limit	do..	001333
Reduction in diameter at point of rupture	do..	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture	½ inch from neck; oblique	
Character of broken surface		silky
Elongation of inch sections		″.40″, ″.09, ″.08

No. 1029.

Marks, $\frac{S\ T_{15}}{M\ T,\ M}$
Diameter, ″.563.
Sectional area, .25 square inch.

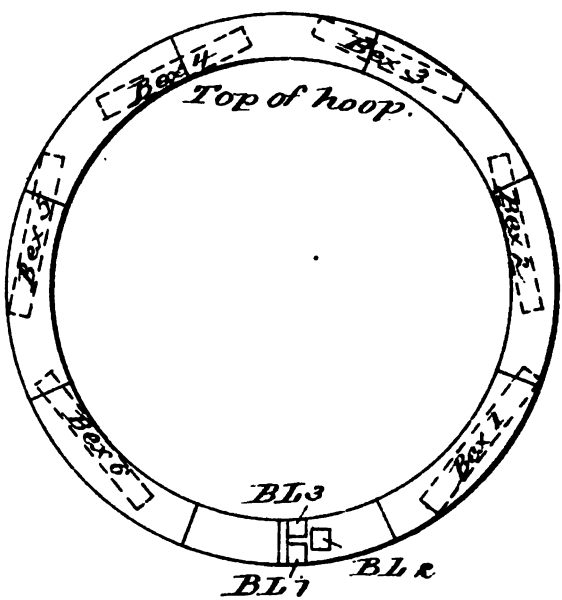
Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000267	.000167	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.000900	.000133	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	
10,250	41,000	.001267	.000034	.....	.....	
10,500	42,000	.001300	.000033	.....	.....	
10,750	43,000	.001367	.000067	.....	.....	Elastic limit.
11,000	44,000	.002100	.000733	.....	.....	
11,250	45,000	.004533	.002433	.003100	.003100	
11,500	46,000	.006300	.001767	.....	.....	
11,750	47,000	.006800	.000500	.....	.....	
12,000	48,000	.007867	.001067	.....	.....	
12,250	49,000	.008767	.000900	.....	.....	
12,500	50,000	.009800	.001033	.007033	.004833	
12,750	51,000	.010433	.000633	.....	.....	
13,000	52,000	.011100	.000667	.....	.....	
13,250	53,000	.012133	.001033	.....	.....	
13,500	54,000	.013400	.001267	.....	.....	
13,750	55,000	.014600	.001200	.....	.....	
14,000	56,000	.015867	.001267	.....	.....	
14,250	57,000	.016900	.001033	.....	.....	
14,500	58,000	.018233	.001333	.....	.....	
14,750	59,000	.019200	.000967	.....	.....	
15,000	60,000	.020800	.001600	.....	.....	
15,500	62,000	.023800	.003000	.....	.....	
16,000	64,000	.026567	.002767	.....	.....	
16,500	66,000	.030267	.003700	.....	.....	
17,000	68,000	.033733	.003466	.....	.....	
17,500	70,000	.038000	.004267	.....	.....	
18,000	72,000	.044667	.006667	.....	.....	
18,500	74,000	.051333	.006666	.....	.....	
19,000	76,000	.0567	.005367	.....	.....	
19,500	78,000	.0700	.0133	.....	.....	
20,000	80,000	.0867	.0167	.....	.....	
20,500	82,000	.1233	.0366	.....	.....	
20,590	82,360	.1500	.0267	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,360
Elastic limit per square inch of original section	do...	43,000
Elongation per inch after rupture	inch..	0.2133
Elongation per inch under strain at elastic limit	do...	.001367
Reduction in diameter at point of rupture	do...	.153
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1 inch from neck
Character of broken surface		silky
Elongation of inch sections		″.36, ″.15, ″.13

8" Steel B. L. Rifle

Hoop Bx Experimental section



Three specimens through width of hoop.

H Ex 31 492

ADDITIONAL SPECIMENS FROM HOOP BX. AFTER UNHOOPING.

No. 2187.

Marks, B L_1
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000367	.000200	0.	.....	
3,750	15,000	.000533	.000166	0.	.....	
5,000	20,000	.000700	.000167	.000033	.000033	
6,250	25,000	.000867	.000167	.000033	0.	
7,500	30,000	.001000	.000133	.000033	0.	
8,750	35,000	.001167	.000167	.000033	0.	
10,000	40,000	.001367	.000200	.000033	0.	
10,250	41,000	.001400	.000033	.....	.....	
10,500	42,000	.001433	.000032	.....	.....	
10,750	43,000	.001433	0.	.....	.....	
11,000	44,000	.001467	.000034	.....	.....	
11,250	45,000	.001533	.000066	.000033	0.	
11,500	46,000	.001600	.000067	.....	.....	
11,750	47,000	.001667	.000067	.....	.....	Elastic limit.
12,000	48,000	.001767	.000100	.....	.....	
12,250	49,000	.002000	.000233	.....	.....	
12,500	50,000	.002467	.000467	.000800	.000767	
12,750	51,000	.002833	.000366	.....	.....	
13,000	52,000	.003167	.000334	.....	.....	
13,250	53,000	.003633	.000466	.....	.....	
13,500	54,000	.004433	.000800	.....	.....	
13,750	55,000	.005033	.000600	.....	.....	
14,000	56,000	.006233	.001200	.....	.....	
14,250	57,000	.006800	.000567	.....	.....	
14,500	58,000	.007667	.000867	.....	.....	
14,750	59,000	.008267	.000600	.....	.....	
15,000	60,000	.009000	.000733	.....	.....	
15,500	62,000	.010667	.001667	.....	.....	
16,000	64,000	.012167	.001500	.....	.....	
16,500	66,000	.013833	.001666	.....	.....	
17,000	68,000	.015667	.001834	.....	.....	
17,500	70,000	.017600	.001933	.....	.....	
18,000	72,000	.019333	.001733	.....	.....	
18,500	74,000	.021667	.002334	.....	.....	
19,000	76,000	.024000	.002333	.....	.....	
19,500	78,000	.026333	.002333	.....	.....	
20,000	80,000	.028833	.002500	.....	.....	
20,500	82,000	.031667	.002834	.....	.....	
21,000	84,000	.034667	.003000	.....	.....	
21,500	86,000	.038167	.003500	.....	.....	
22,000	88,000	.042333	.004166	.....	.....	
22,500	90,000	.047333	.005000	.....	.....	
23,000	92,000	.0533	.005967	.....	.....	
23,500	94,000	.0633	.0100	.....	.....	
24,000	96,000	.0733	.0100	.....	.....	
24,500	98,000	.0933	.0200	.....	.....	
24,810	99,240	.1300	.0367	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	99,240
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001667
Reduction in diameter at point of rupture	do...	.104
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		½ inch from middle of stem
Character of broken surface		granular; dull spot near circumference
Elongation of inch sections		".15, ".32", ".13

No. 2188.

Marks, B L_2
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.		
2,500	10,000	.000333	.000166	0.		
3,750	15,000	.000533	.000200	.000033	.000033	
5,000	20,000	.000767	.000234	.000067	.000034	
6,250	25,000	.000900	.000133	.000067	0.	
7,500	30,000	.001067	.000167	.000067	0.	
8,750	35,000	.001233	.000166	.000067	0.	
10,000	40,000	.001467	.000234	.000100	.000033	
10,250	41,000	.001533	.000066			
10,500	42,000	.001567	.000034			
10,750	43,000	.001600	.000033			
11,000	44,000	.001667	.000067			
11,250	45,000	.001767	.000100	.000233	.000133	Elastic limit.
11,500	46,000	.001900	.000133			
11,750	47,000	.002067	.000167			
12,000	48,000	.002600	.000533			
12,250	49,000	.002900	.000300			
12,500	50,000	.003733	.000833	.001900	.001667	
12,750	51,000	.004167	.000434			
13,000	52,000	.004667	.000500			
13,250	53,000	.005267	.000600			
13,500	54,000	.006000	.000733			
13,750	55,000	.006700	.000700			
14,000	56,000	.007567	.000867			
14,250	57,000	.008067	.000500			
14,500	58,000	.009000	.000967			
14,750	59,000	.009900	.000900			
15,000	60,000	.010733	.000833			
15,500	62,000	.012233	.001500			
16,000	64,000	.013733	.001500			
16,500	66,000	.015333	.001600			
17,000	68,000	.017167	.001834			
17,500	70,000	.019033	.001866			
18,000	72,000	.021333	.002300			
18,500	74,000	.023333	.002000			
19,000	76,000	.025600	.002267			
19,500	78,000	.028000	.002400			
20,000	80,000	.030733	.002733			
20,500	82,000	.034167	.003434			
21,000	84,000	.037333	.003166			
21,500	86,000	.041333	.004000			
22,000	88,000	.045833	.004500			
22,500	90,000	.054833	.009000			
23,000	92,000	.0633	.008467			
23,500	94,000	.0700	.0067			
24,000	96,000	.0867	.0167			
24,400	97,600	.1267	.0400			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	97,600
Elastic limit per square inch of original section	do	45,000
Elongation per inch after rupture	inch	0.1733
Elongation per inch under strain at elastic limit	do	.001767
Reduction in diameter at point of rupture	do	.094
Reduction in area after rupture, per centum of original section		29.6
Position of rupture		".05 inch from middle of stem
Character of broken surface		granular; dull spot near circumference
Elongation of inch sections		".13, ".29, ".10

No. 2189.

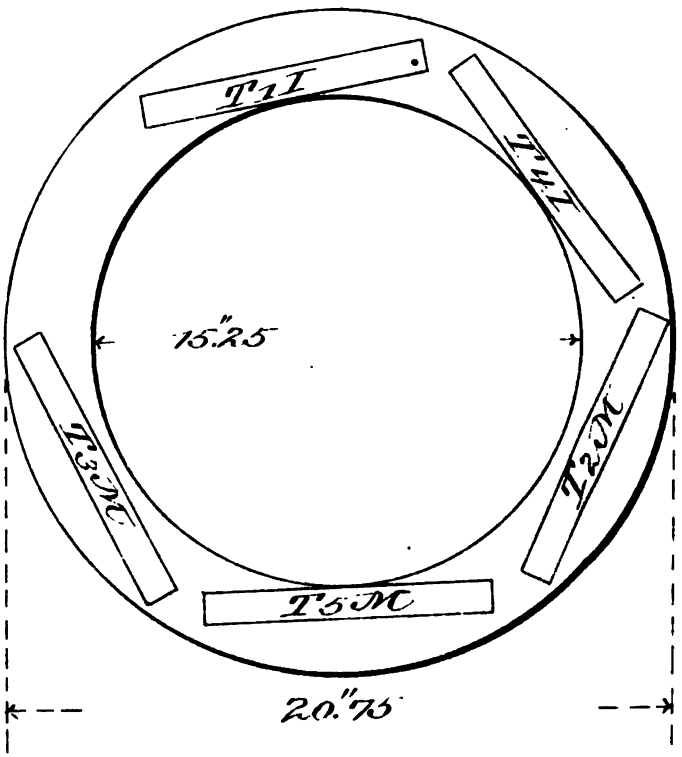
Marks, B L_3
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000300	.000167	0.		
3,750	15,000	.000467	.000167	0.		
5,000	20,000	.000633	.000166	0.		
6,250	25,000	.000800	.000167	0.		
7,500	30,000	.000967	.000167	0.		
8,750	35,000	.001167	.000200	0.		
10,000	40,000	.001400	.000233	.000100	.000100	
10,250	41,000	.001467	.000067			
10,500	42,000	.001500	.000033			
10,750	43,000	.001567	.000067			
11,000	44,000	.001633	.000066			
11,250	45,000	.001700	.000067	.000200	.000100	
11,500	46,000	.001767	.000067			
11,750	47,000	.001833	.000066			
12,000	48,000	.001933	.001000			
12,250	49,000	.002000	.000067			
12,500	50,000	.002133	.000133	.000433	.000233	Elastic limit not well defined.
12,750	51,000	.002233	.000100			
13,000	52,000	.002367	.000134			
13,250	53,000	.002533	.000166			
13,500	54,000	.002767	.000234			
13,750	55,000	.003167	.000400			
14,000	56,000	.003533	.000366			
14,250	57,000	.004067	.000534			
14,500	58,000	.004700	.000633			
14,750	59,000	.005267	.000567			
15,000	60,000	.006000	.000733			
15,500	62,000	.007667	.001667			
16,000	64,000	.009200	.001533			
16,500	66,000	.010833	.001633			
17,000	68,000	.012400	.001567			
17,500	70,000	.014333	.001933			
18,000	72,000	.016200	.001867			
18,500	74,000	.018000	.001800			
19,000	76,000	.020000	.002000			
19,500	78,000	.022167	.002167			
20,000	80,000	.024533	.002366			
20,500	82,000	.027433	.002900			
21,000	84,000	.030000	.002567			
21,500	86,000	.034667	.004667			
22,000	88,000	.037667	.003000			
22,500	90,000	.042333	.004666			
23,000	92,000	.047333	.005000			
23,500	94,000	.053333	.006000			
24,000	96,000	.0667	.013367			
24,500	98,000	.0767	.0100			
25,000	100,000	.1067	.0300			
25,010	100,040	.1333	.0266			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	100,040
Elastic limit per square inch of original section, not well defined	do...	50,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.002133
Reduction in diameter at point of rupture	do...	.094
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		".30 from middle of stem
Character of broken surface		granular; dull eccentric spot
Elongation of inch sections		".14, ".25*, ".13

8" Experimental Hoop



H Ex 31 49 2

No. 2322.

Marks, $\frac{8\ \text{Hex}}{T_1\ I}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.	.....	
2,500	10,000	.000333	.000166	0.	.....	
3,750	15,000	.000483	.000150	0.	.....	
5,000	20,000	.000667	.000184	0.	.....	
6,250	25,000	.000783	.000116	0.	.....	
7,500	30,000	.000933	.000150	0.	.....	
8,750	35,000	.001117	.000184	0.	.....	
10,000	40,000	.001283	.000166	0.	.....	
11,250	45,000	.001400	.000117	0.	.....	
12,500	50,000	.001583	.000183	0.	.....	
12,750	51,000	.001617	.000034	.....	.....	
13,000	52,000	.001650	.000033	.....	.....	
13,250	53,000	.001683	.000033	.....	.....	
13,500	54,000	.001700	.000017	.....	.....	
13,750	55,000	.001733	.000033	0.	.....	
14,000	56,000	.001767	.000034	.....	.....	
14,250	57,000	.001800	.000033	.....	.....	
14,500	58,000	.001867	.000067	.....	.....	
14,750	59,000	.002033	.000166	.....	.....	
15,000	60,000	.002067	.000034	.000067	.000067	Elastic limit.
15,250	61,000	.002183	.000116	.....	.....	
15,500	62,000	.002350	.000167	.....	.....	
15,750	63,000	.002533	.000183	.....	.....	
16,000	64,000	.002767	.000234	.....	.....	
16,250	65,000	.003100	.000333	.....	.....	
16,500	66,000	.003600	.000500	.....	.....	
16,750	67,000	.004183	.000583	.....	.....	
17,000	68,000	.004883	.000700	.....	.....	
17,250	69,000	.005517	.000634	.....	.....	
17,500	70,000	.006500	.000983	.....	.....	
18,000	72,000	.008167	.001667	.....	.....	
18,500	74,000	.009833	.001666	.....	.....	
19,000	76,000	.011383	.001550	.....	.....	
19,500	78,000	.013017	.001634	.....	.....	
20,000	80,000	.014667	.001650	.....	.....	
20,500	82,000	.016500	.001833	.....	.....	
21,000	84,000	.018333	.001833	.....	.....	
21,500	86,000	.020167	.001834	.....	.....	
22,000	88,000	.022167	.002000	.....	.....	
22,500	90,000	.024333	.002166	.....	.....	
23,000	92,000	.0267	.002367	.....	.....	
23,500	94,000	.0283	.0016	.....	.....	
24,000	96,000	.0317	.0034	.....	.....	
24,500	98,000	.0350	.0033	.....	.....	
25,000	100,000	.0383	.0033	.....	.....	
25,500	102,000	.0417	.0034	.....	.....	
26,000	104,000	.0467	.0050	.....	.....	
26,500	106,000	.0517	.0050	.....	.....	
27,000	108,000	.0617	.0100	.....	.....	
27,500	110,000	.0817	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	110,000
Elastic limit per square inch of original section	do...	60,000
Elongation per inch after rupture	inch..	0.0967
Elongation per inch under strain at elastic limit	do...	.002067
Reduction in diameter at point of rupture	do...	.695
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		".35 from neck
Character of broken surface		granular; dull center
Elongations of inch sections		".20*, ".08, ".08, ".07, ".07, ".08

No. 2323.

Marks, $\frac{8\ \text{Hex}}{T_2\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000317	.000184	0.	.....	
3,750	15,000	.000467	.000150	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000767	.000134	0.	.....	
7,500	30,000	.000967	.000200	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
10,000	40,000	.001267	.000134	0.	.....	
11,250	45,000	.001450	.000183	0.	.....	
12,500	50,000	.001633	.000183	0.	.....	
12,750	51,000	.001650	.000017	.....	.....	
13,000	52,000	.001683	.000033	.....	.....	
13,250	53,000	.001717	.000034	.....	.....	
13,500	54,000	.001750	.000033	.....	.....	
13,750	55,000	.001800	.000050	.....	.....	Elastic limit.
14,000	56,000	.001883	.000083	.....	.....	
14,250	57,000	.002000	.000117	.....	.....	
14,500	58,000	.002167	.000167	.....	.....	
14,750	59,000	.002400	.000233	.....	.....	
15,000	60,000	.002717	.000317	.....	.....	
15,500	62,000	.003833	.001116	.....	.....	
16,000	64,000	.005083	.001250	.....	.....	
16,500	66,000	.006667	.001584	.....	.....	
17,000	68,000	.008333	.001666	.....	.....	
17,500	70,000	.009833	.001500	.....	.....	
18,000	72,000	.011333	.001500	.....	.....	
18,500	74,000	.013017	.001684	.....	.....	
19,000	76,000	.014850	.001833	.....	.....	
19,500	78,000	.016800	.001950	.....	.....	
20,000	80,000	.018583	.001783	.....	.....	
20,500	82,000	.020200	.001617	.....	.....	
21,000	84,000	.022250	.002050	.....	.....	
21,500	86,000	.024333	.002083	.....	.....	
22,000	88,000	.026667	.002334	.....	.....	
22,500	90,000	.029000	.002333	.....	.....	
23,000	92,000	.....	.....	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	92,000
Elastic limit per square inch of original section	do....	55,000
Elongation per inch after rupture	inch..	0.0[illegible]
Elongation per inch under strain at elastic limit	do....	.001[illegible]
Reduction in diameter at point of rupture	do....	.0[illegible]
Reduction in area after rupture, per centum of original section		8.4
Position of rupture		½ inch from middle of stem
Character of broken surface		granular, radiating from a point in the circumference
Elongation of inch sections		".02, ".03, ".03+, ".02, ".02, ".0[illegible]

No. 2324.

Marks, $\frac{8\ \text{Hex}}{T,\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000083	.000083	0.	.....	
2,500	10,000	.000267	.000184	0.	.....	
3,750	15,000	.000400	.000133	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000717	.000150	0.	.....	
7,500	30,000	.000900	.000183	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
10,000	40,000	.001233	.000166	0.	.....	
11,250	45,000	.001400	.000167	0.	.....	
12,500	50,000	.001583	.000183	0.	.....	
12,750	51,000	.001617	.000034	.....	.....	
13,000	52,000	.001650	.000033	.....	.....	
13,250	53,000	.001683	.000033	.....	.....	
13,500	54,000	.001800	.000117	.....	.....	
13,750	55,000	.001833	.000033	.000017	.000017	
14,000	56,000	.001867	.000034	.....	.....	
14,250	57,000	.001917	.000050	.....	.....	Elastic limit.
14,500	58,000	.002050	.000133	.....	.....	
14,750	59,000	.002167	.000117	.....	.....	
15,000	60,000	.002500	.000333	.....	.....	
15,500	62,000	.003467	.000967	.....	.....	
16,000	64,000	.005333	.001866	.....	.....	
16,500	66,000	.007333	.002000	.....	.....	
17,000	68,000	.009000	.001667	.....	.....	
17,500	70,000	.010850	.001850	.....	.....	
18,000	72,000	.012517	.001667	.....	.....	
18,500	74,000	.014333	.001816	.....	.....	
19,000	76,000	.016167	.001834	.....	.....	
19,500	78,000	.018000	.001833	.....	.....	
20,000	80,000	.020133	.002133	.....	.....	
20,500	82,000	.022250	.002117	.....	.....	
21,000	84,000	.0233	.001050	.....	.....	
21,500	86,000	.0267	.0034	.....	.....	
22,000	88,000	.0300	.0033	.....	.....	
22,500	90,000	.0333	.0033	.....	.....	
23,000	92,000	.0350	.0017	.....	.....	
23,500	94,000	.0400	.0050	.....	.....	
24,000	96,000	.0450	.0050	.....	.....	
24,500	98,000	.0517	.0067	.....	.....	
25,000	100,000	.0600	.0083	.....	.....	
25,500	102,000	.0750	.0150	.....	.....	
25,990	103,960	.1167	.0417	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	103,960
Elastic limit per square inch of original section	do...	57,000
Elongation per inch after rupture	inch..	0.1633
Elongation per inch under strain at elastic limit	do...	.001917
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		½ inch from middle of stem
Character of broken surface		granular at circumference; dull center
Elongation of inch sections		".08, ".12, ".36, ".15, ".15, ".12

No. 2540.

Marks, $\frac{8\ \text{Hex}}{\text{T. I}}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000117	.000117	0.		
2,500	10,000	.000250	.000133	0.		
3,750	15,000	.000433	.000183	0.		
5,000	20,000	.000600	.000167	0.		
6,250	25,000	.000717	.000117	0.		
7,500	30,000	.000883	.000166	0.		
8,750	35,000	.001083	.000200			
10,000	40,000	.001233	.000150			
11,250	45,000	.001417	.000184			
12,500	50,000	.001600	.000183			
12,750	51,000	.001633	.000033			
13,000	52,000	.001667	.000034			
13,250	53,000	.001700	.000033			
13,500	54,000	.001750	.000050			
13,750	55,000	.001783	.000033			
14,000	56,000	.001817	.000034			
14,250	57,000	.001867	.000050			
14,500	58,000	.001950	.000083			
14,750	59,000	.002000	.000050			Elastic limit.
15,000	60,000	.002167	.000167			
15,250	61,000	.002283	.000116			
15,500	62,000	.002567	.000284			
16,000	64,000	.003100	.000533			
16,500	66,000	.003700	.000600			
17,000	68,000	.005167	.001467			
17,500	70,000	.006417	.001250			
18,000	72,000	.007833	.001416			
18,500	74,000	.009333	.001500			
19,000	76,000	.011000	.001667			
19,500	78,000	.012517	.001517			
20,000	80,000	.014167	.001650			
20,500	82,000	.015667	.001500			
21,000	84,000	.017500	.001833			
21,500	86,000	.019333	.001833			
22,000	88,000	.021417	.002084			
22,500	90,000	.0233	.001883			
23,000	92,000	.0250	.0017			
23,500	94,000	.0283	.0033			
24,000	96,000	.0317	.0034			
24,500	98,000	.0350	.0033			
25,000	100,000	.0367	.0017			
25,500	102,000	.0383	.0016			
26,000	104,000	.0450	.0067			
26,500	106,000	.0500	.0050			
27,000	108,000	.0567	.0067			
27,500	110,000	.0700	.0133			
27,550	110,200	.0800	.0100			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	110,2[illegible]
Elastic limit per square inch of original section	do...	59,[illegible]
Elongation per inch after rupture	inch .	0.[illegible]
Elongation per inch under strain at elastic limit	do...	.0[illegible]
Reduction in diameter at point of rupture	do...	.[illegible]
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		″.40 from neck
Character of broken surface	granular; dull center	
Elongation of inch sections	″.25*, ″.06, ″.06, ″.04, ″.05, .[illegible]	

No. 2541.

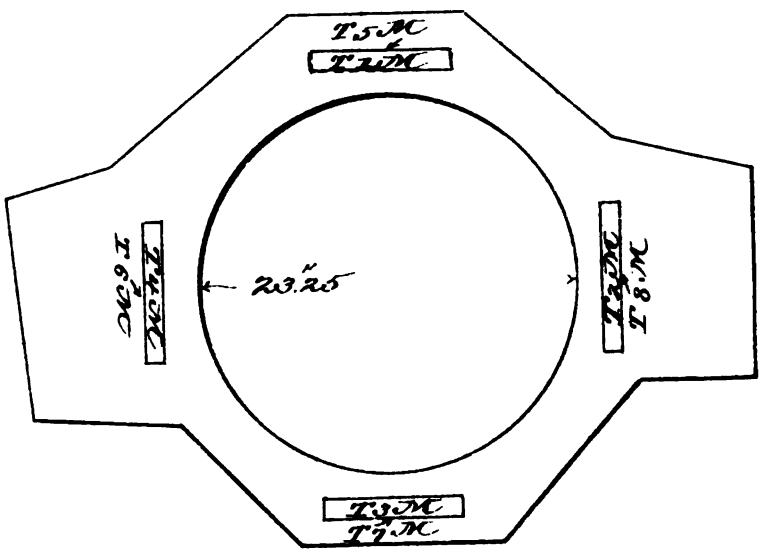
Marks, $\frac{8\ \text{Hex}}{\text{T. M}}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000150	.000150	0.	.....	
2,500	10,000	.000317	.000167	0.	.....	
3,750	15,000	.000483	.000166	0.	.....	
5,000	20,000	.000650	.000167	0.	.....	
6,250	25,000	.000833	.000183	0.	.....	
7,500	30,000	.000983	.000150	0.	.....	
8,750	35,000	.001133	.000150	.....	.....	
10,000	40,000	.001300	.000167	.....	.....	
11,250	45,000	.001467	.000167	.....	.....	
12,500	50,000	.001633	.000166	.....	.....	
12,750	51,000	.001667	.000034	.....	.....	
13,000	52,000	.001717	.000050	.....	.....	
13,250	53,000	.001767	.000050	.....	.....	Elastic limit.
13,500	54,000	.001850	.000083	.....	.....	
13,750	55,000	.001967	.000117	.....	.....	
14,000	56,000	.002117	.000150	.....	.....	
14,250	57,000	.002367	.000250	.....	.....	
14,500	58,000	.002717	.000350	.....	.....	
14,750	59,000	.003117	.000400	.....	.....	
15,000	60,000	.003700	.000583	.....	.....	
15,500	62,000	.004917	.001217	.....	.....	
16,000	64,000	.006583	.001666	.....	.....	
16,500	66,000	.008233	.001650	.....	.....	
17,000	68,000	.009717	.001484	.....	.....	
17,500	70,000	.011200	.001483	.....	.....	
18,000	72,000	.012767	.001567	.....	.....	
18,500	74,000	.014667	.001900	.....	.....	
19,000	76,000	.016183	.001516	.....	.....	
19,500	78,000	.017900	.001717	.....	.....	
20,000	80,000	.019867	.001967	.....	.....	
20,500	82,000	.022250	.002383	.....	.....	
21,000	84,000	.024333	.002083	.....	.....	
21,500	86,000	.027000	.002667	.....	.....	
22,000	88,000	.029000	.002000	.....	.....	
22,500	90,000	.0333	.0043	.....	.....	
23,000	92,000	.0350	.0017	.....	.....	
23,500	94,000	.0400	.0050	.....	.....	
24,000	96,000	.0483	.0033	.....	.....	
24,500	98,000	.0483	.0050	.....	.....	
25,000	100,000	.0533	.0050	.....	.....	
25,500	102,000	.0650	.0117	.....	.....	
26,000	104,000	.0783	.0133	.....	.....	
26,060	104,240	.0900	.0117	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	104,240
Elastic limit per square inch of original section	do...	53,000
Elongation per inch after rupture	inch..	0.1133
Elongation per inch under strain at elastic limit	do...	.001767
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		1 inch from neck
Character of broken surface		granular; dull center
Elongation of inch sections		".27*, ".13, ".10, ".05, ".06, ".07

8" experimental Trunnion Hoop.



H Ex 31 492

No. 2046.

Marks, $\frac{8\,T\,Hex}{T_1\,M}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000117	.000117	0.		
2,500	10,000	.000283	.000166	0.		
3,750	15,000	.000450	.000167	0.		
5,000	20,000	.000617	.000167	0.		
6,250	25,000	.000783	.000166	0.		
7,500	30,000	.000933	.000150	0.		
8,750	35,000	.001083	.000150	0.		
10,000	40,000	.001250	.000167	0.		
11,250	45,000	.001433	.000183	0.		
11,500	46,000	.001467	.000034			
11,750	47,000	.001500	.000033			
12,000	48,000	.001533	.000033			
12,250	49,000	.001567	.000034			
12,500	50,000	.001617 .003950	.000050 .002333	.002217	.002217	Elastic limit.
12,750	51,000	.005167	.001217			
13,000	52,000	.007917	.002750			
13,250	53,000	.009000	.001083			
13,500	54,000	.010167	.001167			
13,750	55,000	.011500	.001333			
14,000	56,000	.012017	.000517			
14,250	57,000	.012567	.000550			
14,500	58,000	.013533	.000966			
14,750	59,000	.014350	.000817			
15,000	60,000	.015517	.001167			
15,500	62,000	.017500	.001983			
16,000	64,000	.019667	.002167			
16,500	66,000	.021917	.002250			
17,000	68,000	.024500	.002583			
17,500	70,000	.027167	.002667			
18,000	72,000	.030167	.003000			
18,500	74,000	.0333	.003133			
19,000	76,000	.0367	.0034			
19,500	78,000	.0433	.0066			
20,000	80,000	.0467	.0034			
20,500	82,000	.0517	.0050			
21,000	84,000	.0600	.0083			
21,500	86,000	.0700	.0100			
22,000	88,000	.0850	.0150			
22,500	90,000	.1133	.0283			
22,610	90,440	.1517	.0384			Tensile strength.

General summary.

Specific gravity	7.8501
Hardness	16.56
Tensile strength per square inch of original section.....pounds..	90,440
Elastic limit per square inch of original section.....do...	50,000
Elongation per inch after rupture.....inch..	0.1917
Elongation per inch under strain at elastic limit.....do...	.001617
Reduction in diameter at point of rupture.....do...	.165
Reduction in area after rupture, per centum of original section	49.7
Position of rupture	".95 from neck
Character of broken surface	silky, interspersed with fine granulation
Elongation of inch sections	".39*, ".19, ".14, ".15, ".15, ".13

No. 2329.

Marks, $\frac{8\ T\ Hex}{T_2\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.		
2,500	10,000	.000267	.000134	0.		
3,750	15,000	.000433	.000166	0.		
5,000	20,000	.000600	.000167	0.		
6,250	25,000	.000767	.000167	0.		
7,500	30,000	.000933	.000166	0.		
8,750	35,000	.001100	.000167	0.		
10,000	40,000	.001267	.000167	0.		
11,250	45,000	.001400	.000133	0.		
11,500	46,000	.001433	.000033			
11,750	47,000	.001467	.000034			
12,000	48,000	.001517	.000050			
12,250	49,000	.001567	.000050			
12,500	50,000	.001633	.000066	.000033	.000033	
12,750	51,000	.001667	.000034			
13,000	52,000	.001700	.000033			
13,250	53,000	.001733	.000033			
13,500	54,000	.001783	.000050			
13,750	55,000	.001817	.000034			Elastic limit.
14,000	56,000	.003250	.001433			
14,250	57,000	.007667	.004417			
14,500	58,000	.008667	.001000			
14,750	59,000	.009333	.000666			
15,000	60,000	.010083	.000750			
15,500	62,000	.011667	.001584			
16,000	64,000	.013583	.001916			
16,500	66,000	.015683	.002100			
17,000	68,000	.017750	.002067			
17,500	70,000	.019833	.002083			
18,000	72,000	.022167	.002334			
18,500	74,000	.024867	.002700			
19,000	76,000	.027667	.002800			
19,500	78,000	.030667	.003000			
20,000	80,000	.0350	.004333			
20,500	82,000	.0383	.0033			
21,000	84,000	.0433	.0050			
21,500	86,000	.0500	.0067			
22,000	88,000	.0567	.0067			
22,500	90,000	.0667	.0100			
23,000	92,000	.0867	.0200			
23,400	93,600	.1333	.0466			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	93,600
Elastic limit per square inch of original section	do	55,000
Elongation per inch after rupture	inch	0.175
Elongation per inch under strain at elastic limit	do	.001817
Reduction in diameter at point of rupture	do	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		".35 from middle of stem
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		".12, ".16, ".35, ".18, ".14, ".1

No. 2330.

Marks, $\frac{S\ T\ Hex}{T_2\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000367	.000234	0.	.....	
3,750	15,000	.000517	.000150	0.	.....	
5,000	20,000	.000667	.000150	0.	.....	
6,250	25,000	.000850	.000183	0.	.....	
7,500	30,000	.001017	.000167	0.	.....	
8,750	35,000	.001183	.000166	0.	.....	
10,000	40,000	.001350	.000167	0.	.....	
11,250	45,000	.001500	.000150	0.	.....	
11,500	46,000	.001533	.000033	.....	.....	
11,750	47,000	.001567	.000034	.....	.....	
12,000	48,000	.001583	.000016	.....	.....	
12,250	49,000	.001617	.000034	.....	.....	
12,500	50,000	.001667	.000050	.....	.....	
12,750	51,000	.001700	.000033	.....	.....	
13,000	52,000	.001717	.000017	.....	.....	
13,250	53,000	.001750	.000033	.....	.....	
13,500	54,000	.001800	.000050	.....	.....	Elastic limit.
13,750	55,000	.002233	.000433	.....	.....	
14,000	56,000	.014017	.011784	.....	.....	
14,250	57,000	.014250	.000233	.....	.....	
14,500	58,000	.014833	.000583	.....	.....	
14,750	59,000	.015750	.000917	.....	.....	
15,000	60,000	.016750	.001000	.....	.....	
15,500	62,000	.018917	.002167	.....	.....	
16,000	64,000	.021333	.002416	.....	.....	
16,500	66,000	.023833	.002500	.....	.....	
17,000	68,000	.026500	.002667	.....	.....	
17,500	70,000	.029417	.002917	.....	.....	
18,000	72,000	.0317	.002283	.....	.....	
18,500	74,000	.0350	.0033	.....	.....	
19,000	76,000	.0383	.0033	.....	.....	
19,500	78,000	.0450	.0067	.....	.....	
20,000	80,000	.0500	.0050	.....	.....	
20,500	82,000	.0600	.0100	.....	.....	
21,000	84,000	.0667	.0067	.....	.....	
21,500	86,000	.0800	.0133	.....	.....	
22,000	88,000	.1000	.0200	.....	.....	
22,400	89,600	.1600	.0600	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,600
Elastic limit per square inch of original section	do...	54,000
Elongation per inch after rupture	inch..	0.2217
Elongation per inch under strain at elastic limit	do...	.00180
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		1 inch from middle of stem
Character of broken surface		fine silky
Elongation of inch sections		".15, ".24, ".42*, ".17, ".18, ".17

No. 2331.

Marks, $\frac{8\ T\ Hex}{T_4\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000183	.000183	0.	.....	
2,500	10,000	.000333	.000150	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
8,750	35,000	.001167	.000167	0.	.....	
10,000	40,000	.001350	.000183	0.	.....	
11,250	45,000	.001500	.000151	0.	.....	
12,500	50,000	.001667	.000167	0.	.....	
12,750	51,000	.001700	.000033	.....	.....	
13,000	52,000	.001733	.000033	.....	.....	
12,250	53,000	.001783	.000050	.....	.....	
13,500	54,000	.001833	.000050	.....	.....	
13,750	55,000	.001867	.000034	.....	.....	
14,000	56,000	.001917	.000050	.....	.....	
14,250	57,000	.001950	.000033	.....	.....	Elastic limit.
14,500	58,000	.008833	.006883	.....	.....	
14,750	59,000	.009200	.000367	.....	.....	
15,000	60,000	.010017	.000817	.....	.....	
15,500	62,000	.011750	.001733	.....	.....	
16,000	64,000	.014000	.002250	.....	.....	
16,500	66,000	.015750	.001750	.....	.....	
17,000	68,000	.018333	.002583	.....	.....	
17,500	70,000	.020000	.001667	.....	.....	
18,000	72,000	.022333	.002333	.....	.....	
18,500	74,000	.025000	.002667	.....	.....	
19,000	76,000	.027667	.002667	.....	.....	
19,500	78,000	.030833	.003166	.....	.....	
20,000	80,000	.034167	.003334	.....	.....	
20,500	82,000	.0367	.002533	.....	.....	
21,000	84,000	.0417	.0050	.....	.....	
21,500	86,000	.0500	.0083	.....	.....	
22,000	88,000	.0550	.0050	.....	.....	
22,500	90,000	.0667	.0117	.....	.....	
23,000	92,000	.0833	.0166	.....	.....	
23,480	93,920	.1350	.0517	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	93,920
Elastic limit per square inch of original section	do...	57,000
Elongation per inch after rupture	inch..	0.1800
Elongation per inch under strain at elastic limit	do...	.0019+
Reduction in diameter at point of rupture	do...	.164
Reduction in area after rupture, per centum of original section		49.7
Position of rupture		at middle of stem
Character of broken surface		silky; traces of granulative
Elongation of inch sections		″.12, ″.13, ″.24, ″.33*, ″.15, ″.12

No. 2325.

Marks, $\frac{8\ T\ Hex}{T_5\ M}$
Diameter, ".565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000117	.000117	0.	.....	
2,500	10,000	.000317	.000200	0.	.....	
3,750	15,000	.000467	.000150	0.	.....	
5,000	20,000	.000650	.000183	0.	.....	
6,250	25,000	.000783	.000133	0.	.....	
7,500	30,000	.000983	.000200	0.	.....	
8,750	35,000	.001133	.000150	0.	.....	
10,000	40,000	.001333	.000200	0.	.....	
11,250	45,000	.001533	.000200	.....	.....	
11,500	46,000	.001583	.000050	.....	.....	Elastic limit.
11,750	47,000	.011833	.010250	.....	.....	
12,000	48,000	.012333	.000500	.....	.....	
12,250	49,000	.012767	.000434	.....	.....	
12,500	50,000	.013417	.000650	.....	.....	
12,750	51,000	.014000	.000583	.....	.....	
13,000	52,000	.014850	.000850	.....	.....	
13,250	53,000	.015683	.000833	.....	.....	
13,500	54,000	.016933	.001250	.....	.....	
13,750	55,000	.017833	.000900	.....	.....	
14,000	56,000	.018967	.001134	.....	.....	
14,250	57,000	.019750	.000783	.....	.....	
14,500	58,000	.021000	.001250	.....	.....	
14,750	59,000	.021867	.000867	.....	.....	
15,000	60,000	.022917	.001050	.....	.....	
15,500	62,000	.025500	.002583	.....	.....	
16,000	64,000	.027917	.002417	.....	.....	
16,500	66,000	.0300	.002083	.....	.....	
17,000	68,000	.0333	.0033	.....	.....	
17,500	70,000	.0367	.0034	.....	.....	
18,000	72,000	.0417	.0050	.....	.....	
18,500	74,000	.0467	.0050	.....	.....	
19,000	76,000	.0517	.0050	.....	.....	
19,500	78,000	.0567	.0050	.....	.....	
20,000	80,000	.0650	.0083	.....	.....	
20,500	82,000	.0767	.0117	.....	.....	
21,000	84,000	.0900	.0133	.....	.....	
21,500	86,000	.1150	.0250	.....	.....	
21,750	87,000	.1550	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,000
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch..	0.2033
Elongation per inch under strain at elastic limit	do...	.001583
Reduction in diameter at point of rupture	do...	.175
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		at middle of stem
Character of broken surface		fine silky
Elongation of inch sections		".12, ".16, ".30, ".37*, ".15, ".12

No. 2326.

Marks, $\frac{8\ T\ Hex}{T.\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	— .000033	.000033	
2,500	10,000	.000250	.000150	— .000033	0.	
3,750	15,000	.000400	.000150	— .000033	0.	
5,000	20,000	.000567	.000167	— .000033	0.	
6,250	25,000	.000733	.000166	— .000033	0.	
7,500	30,000	.000900	.000167	— .000033	0.	
8,750	35,000	.001067	.000167	— .000033	0.	
10,000	40,000	.001250	.000183	— .000033	0.	
11,250	45,000	.001400	.000150	— .000033	0.	
11,500	46,000	.001417	.000017	.....	.....	
11,750	47,000	.001467	.000050	.....	.....	Elastic limit.
12,000	48,000	.001567	.000100	.....	.....	
12,250	49,000	.004233	.002666	.....	.....	
12,500	50,000	.006167	.001934	.....	.....	
12,750	51,000	.008033	.001916	.....	.....	
13,000	52,000	.009183	.001100	.....	.....	
13,250	53,000	.010083	.000900	.....	.....	
13,500	54,000	.011167	.001084	.....	.....	
13,750	55,000	.012000	.000833	.....	.....	
14,000	56,000	.013000	.001000	.....	.....	
14,250	57,000	.013767	.000767	.....	.....	
14,500	58,000	.014750	.000983	.....	.....	
14,750	59,000	.015750	.001000	.....	.....	
15,000	60,000	.016917	.001167	.....	.....	
15,500	62,000	.019100	.002183	.....	.....	
16,000	64,000	.021267	.002167	.....	.....	
16,500	66,000	.023750	.002483	.....	.....	
17,000	68,000	.026333	.002583	.....	.....	
17,500	70,000	.029167	.002834	.....	.....	
18,000	72,000	.032250	.003083	.....	.....	
18,500	74,000	.0367	.004450	.....	.....	
19,000	76,000	.0400	.0033	.....	.....	
19,500	78,000	.0450	.0050	.....	.....	
20,000	80,000	.0500	.0050	.....	.....	
20,500	82,000	.0567	.0067	.....	.....	
21,000	84,000	.0667	.0100	.....	.....	
21,500	86,000	.0817	.0150	.....	.....	
22,000	88,000	.1067	.0250	.....	.....	
22,250	89,000	.1467	.0400	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,000
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1750
Elongation per inch under strain at elastic limit	do...	.001467
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		″.75 from neck
Character of broken surface		granular, 50 per centum; silky, 50 per centum
Elongation of inch sections		″.17, ″.14, ″.14, ″.12, ″.16, ″.32

No. 2327.

Marks, $\frac{8\ T\ Hex}{T_7\ M}$
Diameter, ″.565.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000317	.000184	0.	.....	
3,750	15,000	.000467	.000150	0.	.....	
5,000	20,000	.000650	.000183	0.	.....	
6,250	25,000	.000817	.000167	0.	.....	
7,500	30,000	.000983	.000166	0.	.....	
8,750	35,000	.001150	.000167	0.	.....	
10,000	40,000	.001317	.000167	0.	.....	
10,250	41,000	.001350	.000033	.....	.....	
10,500	42,000	.001400	.000050	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	Elastic limit.
11,000	44,000	.001567	.000134	.....	.....	
11,250	45,000	.009667	.008100	.....	.....	
11,500	46,000	.010500	.000833	.....	.....	
11,750	47,000	.011033	.000533	.....	.....	
12,000	48,000	.011867	.000834	.....	.....	
12,250	49,000	.012517	.000650	.....	.....	
12,500	50,000	.013333	.000816	.....	.....	
13,000	52,000	.015250	.001917	.....	.....	
13,500	54,000	.017167	.001917	.....	.....	
14,000	56,000	.019167	.002000	.....	.....	
14,500	58,000	.021083	.001916	.....	.....	
15,000	60,000	.023300	.002217	.....	.....	
15,500	62,000	.025333	.002033	.....	.....	
16,000	64,000	.027833	.002500	.....	.....	
16,500	66,000	.030533	.002700	.....	.....	
17,000	68,000	.0333	.002767	.....	.....	
17,500	70,000	.0367	.0034	.....	.....	
18,000	72,000	.0400	.0033	.....	.....	
18,500	74,000	.0450	.0050	.....	.....	
19,000	76,000	.0500	.0050	.....	.....	
19,500	78,000	.0550	.0050	.....	.....	
20,000	80,000	.0633	.0083	.....	.....	
20,500	82,000	.0733	.0100	.....	.....	
21,000	84,000	.0867	.0134	.....	.....	
21,500	86,000	.1083	.0216	.....	.....	
21,850	87,400	.1600	.0517	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,400
Elastic limit per square inch of original section	do...	43,003
Elongation per inch after rupture	inch..	0.1983
Elongation per inch under strain at elastic limit	do...	.001435
Reduction in diameter at point of rupture	do ..	.152
Reduction in area after rupture, per centum of original section		47.
Position of rupture		1½ inches from middle of stem
Character of broken surface		silky
Elongation of inch sections		″.11, ″.14, ″.16, ″.22, ″.42, ″.14

No. 2328.

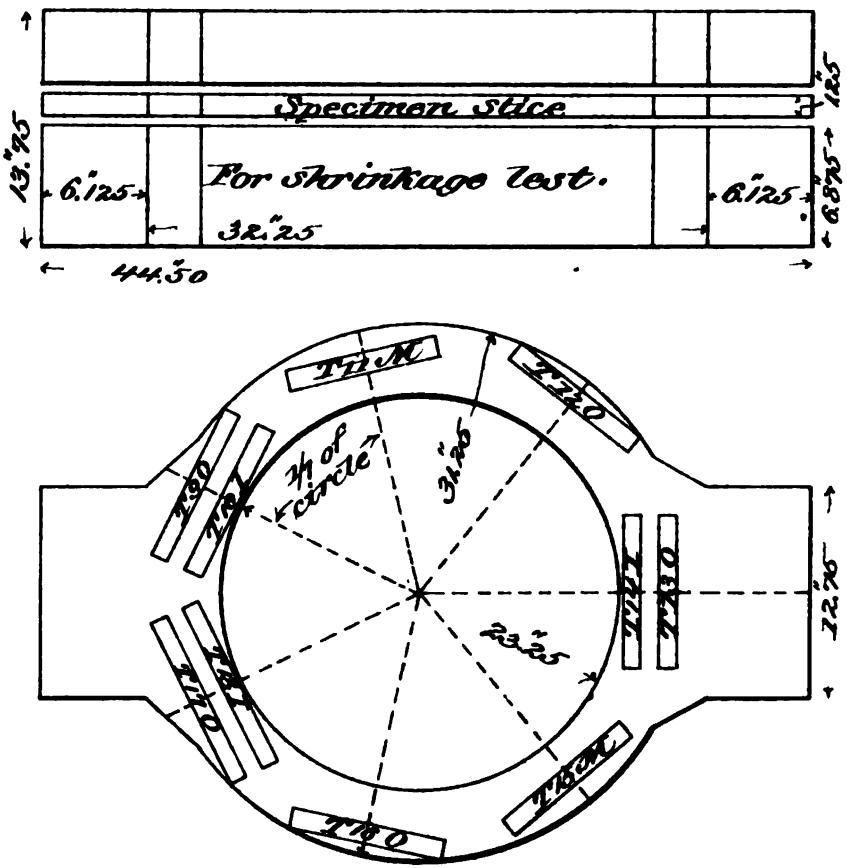
Marks, $\frac{8\ T\ Hex}{T_8\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000283	.000183	0.	.....	
3,750	15,000	.000450	.000167	0.	.....	
5,000	20,000	.000617	.000167	0.	.....	
6,250	25,000	.000783	.000166	0.	.....	
7,500	30,000	.000950	.000167	0.	.....	
8,750	35,000	.001133	.000183	0.	.....	
10,000	40,000	.001283	.000150	0.	.....	
11,250	45,000	.001450	.000167	0.	.....	
11,500	46,000	.001483	.000033	.....	.....	Elastic limit.
11,750	47,000	.001567	.000084	.....	.....	
12,000	48,000	.001633	.000066	.....	.....	
12,250	49,000	.003550	.001917	.....	.....	
12,500	50,000	.004417	.000867	.....	.....	
13,000	52,000	.007917	.003500	.....	.....	
13,500	54,000	.010417	.002500	.....	.....	
14,000	56,000	.012167	.001750	.....	.....	
14,500	58,000	.013917	.001750	.....	.....	
15,000	60,000	.015933	.002016	.....	.....	
15,500	62,000	.018000	.002067	.....	.....	
16,000	64,000	.020000	.002000	.....	.....	
16,500	66,000	.022500	.002500	.....	.....	
17,000	68,000	.025000	.002500	.....	.....	
17,500	70,000	.027750	.002750	.....	.....	
18,000	72,000	.031000	.003250	.....	.....	
18,500	74,000	.034250	.003250	.....	.....	
19,000	76,000	.0367	.002450	.....	.....	
19,500	78,000	.0433	.0066	.....	.....	
20,000	80,000	.0483	.0050	.....	.....	
20,500	82,000	.0533	.0050	.....	.....	
21,000	84,000	.0617	.0084	.....	.....	
21,500	86,000	.0750	.0133	.....	.....	
22,000	88,000	.0883	.0133	.....	.....	
22,240	88,960	.1133	.0250	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,960
Elastic limit per square inch of original section	do...	46,000
Elongation per inch after rupture	inch .	0.1450
Elongation per inch under strain at elastic limit	do...	.001483
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		¾ inch from neck
Character of broken surface		silky
Elongation of inch sections		".39", ".13, ".10, ".08, ".08, ".09

8" experimental Trunnion Hoop.



H Ex 31 492

No. 2577.

Marks, $\frac{8\ T\ Hex}{T.\ O}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.		
2,500	10.000	.000267	.000167	0.		
3,750	15,000	.000433	.000166	0.		
5,000	20,000	.000600	.000167	0.		
6,250	25,000	.000783	.000183	0.		
7,500	30,000	.000950	.000167	0.		
8,750	35,000	.001133	.000183			
9,000	36,000	.001167	.000034			
9,250	37,000	.001200	.000033			
9,500	38,000	.001233	.000033			
9,750	39,000	.001267	.000034			
10,000	40,000	.001317	.000050			
10,250	41,000	.001367	.000050			
10,500	42,000	.001406	.000033			
10,750	43,000	.001433	.000033			
11,000	44,000	.001483	.000050			Elastic limit.
11,250	45,000	.001583	.000100			
11,500	46,000	.004417	.002834			
11,750	47,000	.008350	.003933			
12,000	48,000	.009250	.000900			
12,250	49,000	.009917	.000667			
12,500	50,000	.011083	.001166			
13,000	52,000	.013100	.002017			
13,500	54,000	.015500	.002400			
14,000	56,000	.017833	.002333			
14,500	58,000	.020000	.002167			
15,000	60,000	.022750	.002750			
15,500	62,000	.025667	.002917			
16,000	64,000	.028667	.003000			
16,500	66,000	.031867	.003200			
17,000	68,000	.0367	.004833			
17,500	70,000	.0417	.0050			
18,000	72,000	.0467	.0050			
18,500	74,000	.0517	.0050			
19,000	76,000	.0633	.0116			
19,500	78,000	.0733	.0100			
20,000	80,000	.0867	.0134			
20,460	81,840	.1417	.0550			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	81,840
Elastic limit per square inch of original section	do...	44,000
Elongation per inch after rupture	inch..	0.1817
Elongation per inch under strain at elastic limit	do...	.001483
Reduction in diameter at point of rupture	do...	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture	1″.25 from neck;	oblique
Character of broken surface		silky
Elongation of inch sections	″.33*, ″.25, ″.16, ″.13, ″.12, ″.10	

No. 2578.

Marks, $\frac{8\ T\ Hex}{T_{10}\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000083	.000083	0.	.....	
2,500	10,000	.000233	.000150	0.	.....	
3,750	15,000	.000417	.000184	0.	.....	
5,000	20,000	.000583	.000166	0.	.....	
6,250	25,000	.000733	.000150	0.	.....	
7,500	30,000	.000900	.000167	0.	.....	
8,750	35,000	.001067	.000167	0.	.....	
9,000	36,000	.001117	.000050	.....	.....	
9,250	37,000	.001150	.000033	.....	.....	
9,500	38,000	.001183	.000033	.....	.....	
9,750	39,000	.001217	.000034	.....	.....	
10,000	40,000	.001250	.000033	.....	.....	
10,250	41,000	.001283	.000033	.....	.....	
10,500	42,000	.001317	.000034	.....	.....	
10,750	43,000	.001350	.000033	.....	.....	
11,000	44,000	.001383	.000033	.....	.....	
11,250	45,000	.001417	.000034	.....	.....	
11,500	46,000	.001450	.000033	.....	.....	
11,750	47,000	.001483	.000033	.....	.....	
12,000	48,000	.001533	.000050	.....	.....	
12,250	49,000	.001567	.000034	.....	.....	Elastic limit.
12,500	50,000	.003533	.001966	.....	.....	
12,750	51,000	.005033	.001500	.....	.....	
13,000	52,000	.007000	.001967	.....	.....	
13,500	54,000	.012333	.005333	.....	.....	
14,000	56,000	.014167	.001834	.....	.....	
14,500	58,000	.016250	.002083	.....	.....	
15,000	60,000	.018667	.002417	.....	.....	
15,500	62,000	.021250	.002583	.....	.....	
16,000	64,000	.023617	.002367	.....	.....	
16,500	66,000	.026667	.003050	.....	.....	
17,000	68,000	.029917	.003250	.....	.....	
17,500	70,000	.033667	.003750	.....	.....	
18,000	72,000	.0367	.003033	.....	.....	
18,500	74,000	.0400	.0033	.....	.....	
19,000	76,000	.0483	.0083	.....	.....	
19,500	78,000	.0550	.0067	.....	.....	
20,000	80,000	.0650	.0100	.....	.....	
20,500	82,000	.0800	.0150	.....	.....	
21,000	84,000	.1017	.0217	.....	.....	
21,090	84,360	.1300	.0283	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	84,3[illegible]
Elastic limit per square inch of original section	do..	49,0[illegible]
Elongation per inch after rupture	inch..	0.1[illegible]
Elongation per inch under strain at elastic limit	do...	.001[illegible]
Reduction in diameter at point of rupture	do...	.3[illegible]
Reduction in area after rupture, per centum of original section		58.[illegible]
Position of rupture		2 inches from [illegible]
Character of broken surface		fine silky
Elongation of inch sections		".08, ".10, ".13, ".18, ".48, ".[illegible]

No. 2579.

Marks, $\frac{8\ T\ Hex}{T_{11}\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	0.	.....	
2,500	10,000	.000233	.000166	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000717	.000150	0.	.....	
7,500	30,000	.000883	.000166	0.	.....	
8,750	35,000	.001067	.000184	0.	.....	
9,000	36,000	.001100	.000038	.....	.....	
9,250	37,000	.001133	.000033	.....	.....	
9,500	38,000	.001183	.000050	.....	.....	
9,750	39,000	.001233	.000050	.....	.....	
10,000	40,000	.001267	.000034	.....	.....	
10,250	41,000	.001300	.000033	.....	.....	
10,500	42,000	.001317	.000017	.....	.....	
10,750	43,000	.001350	.000033	.....	.....	
11,000	44,000	.001383	.000033	.....	.....	
11,250	45,000	.001433	.000050	.....	.....	Elastic limit.
11,500	46,000	.002500	.001067	.....	.....	
11,750	47,000	.004000	.001500	.....	.....	
12,000	48,000	.007750	.003750	.....	.....	
12,250	49,000	.008683	.000933	.....	.....	
12,500	50,000	.009500	.000817	.....	.....	
13,000	52,000	.012333	.002833	.....	.....	
13,500	54,000	.014000	.001667	.....	.....	
14,000	56,000	.015700	.001700	.....	.....	
14,500	58,000	.018000	.002300	.....	.....	
15,000	60,000	.020167	.002167	.....	.....	
15,500	62,000	.021500	.001333	.....	.....	
16,000	64,000	.024667	.003167	.....	.....	
16,500	66,000	.028333	.003666	.....	.....	
17,000	68,000	.030667	.002334	.....	.....	
17,500	70,000	.033333	.002666	.....	.....	
18,000	72,000	.0367	.003367	.....	.....	
18,500	74,000	.0417	.0050	.....	.....	
19,000	76,000	.0467	.0050	.....	.....	
19,500	78,000	.0533	.0066	.....	.....	
20,000	80,000	.0600	.0067	.....	.....	
20,500	82,000	.0700	.0100	.....	.....	
21,000	84,000	.0850	.0150	.....	.....	
21,500	86,000	.1150	.0300	.....	.....	
21,540	86,160	.1333	.0183	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	86,160
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.1650
Elongation per inch under strain at elastic limit	do...	.001433
Reduction in diameter at point of rupture	do...	.174
Reduction in area after rupture, per centum of original section		52.2
Position of rupture		".85 from neck
Character of broken surface		fine silky
Elongation of inch sections		".39*, ".18, ".13, ".11, ".10, ".08

No. 2580.

Marks, $\frac{8\ T\ Hex}{T_{12}\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.		
2,500	10,000	.000267	.000167	0.		
3,750	15,000	.000450	.000133	0.		
5,000	20,000	.000633	.000183	0.		
6,250	25,000	.000800	.000167	0.		
7,500	30,000	.000983	.000183	0.		
8,750	35,000	.001150	.000167	0.		
9,000	36,000	.001183	.000033			
9,250	37,000	.001217	.000034			
9,500	38,000	.001233	.000016			
9,750	39,000	.001267	.000034			
10,000	40,000	.001300	.000033			
10,250	41,000	.001333	.000033			
10,500	42,000	.001383	.000050			
10,750	43,000	.001417	.000034			
11,000	44,000	.001450	.000033			
11,250	45,000	.001500	.000050			
11,500	46,000	.001533	.000033			
11,750	47,000	.001583	.000050			
12,000	48,000	.001650	.000067			Elastic limit.
12,250	49,000	.004833	.003183			
12,500	50,000	.006417	.001584			
12,750	51,000	.007933	.001516			
13,000	52,000	.009667	.001734			
13,500	54,000	.011333	.001666			
14,000	56,000	.013017	.001684			
14,500	58,000	.014917	.001900			
15,000	60,000	.016667	.001750			
15,500	62,000	.019000	.002333			
16,000	64,000	.021583	.002583			
16,500	66,000	.024000	.002417			
17,000	68,000	.026000	.002000			
17,500	70,000	.028667	.002667			
18,000	72,000	.031667	.003000			
18,500	74,000	.0350	.003333			
19,000	76,000	.0383	.0033			
19,500	78,000	.0433	.0050			
20,000	80,000	.0500	.0067			
20,500	82,000	.0567	.0067			
21,000	84,000	.0650	.0083			
21,500	86,000	.0567	.0117			
22,000	88,000	.0900	.0133			
22,320	89,280	.1333	.0433			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	89,2[illegible]
Elastic limit per square inch of original section	do...	48,0[illegible]
Elongation per inch after rupture	inch..	0.165[illegible]
Elongation per inch under strain at elastic limit	do..	.0016[illegible]
Reduction in diameter at point of rupture	do...	.1[illegible]
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		".20 from middle of st[illegible]
Character of broken surface		silk[illegible]
Elongation of inch sections		".09, ".12, ".37*, ".20, ".12, ".10

No. 2581.

Marks, $\frac{8\ T\ Hex}{T_{12}\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000117	.000117	0.	.....	
2,500	10,000	.000300	.000183	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000817	.000184	0.	.....	
7,500	30,000	.000983	.000166	0.	.....	
8,750	35,000	.001150	.000167	0.	.....	
10,000	40,000	.001300	.000150	0.	.....	
10,250	41,000	.001333	.000033	.....	.....	
10,500	42,000	.001367	.000034	.....	.....	
10,750	43,000	.001400	.000033	.....	.....	
11,000	44,000	.001417	.000017	.....	.....	
11,250	45,000	.001483	.000066	0.	.....	
11,500	46,000	.001583	.000100	.....	.....	
11,750	47,000	.001633	.000050	.....	.....	
12,000	48,000	.001667	.000034	.....	.....	
12,250	49,000	.001683	.000016	.....	.....	
12,500	50,000	.001717	.000034	.000067	.000067	Elastic limit.
12,750	51,000	.001800	.000083	.....	.....	
13,000	52,000	.004667	.002867	.....	.....	
13,250	53,000	.006417	.001750	.....	.....	
13,500	54,000	.007667	.001250	.....	.....	
14,000	56,000	.009000	.001333	.....	.....	
14,500	58,000	.011017	.002017	.....	.....	
15,000	60,000	.012833	.001816	.....	.....	
15,500	62,000	.014500	.001667	.....	.....	
16,000	64,000	.016533	.002033	.....	.....	
16,500	66,000	.018617	.002084	.....	.....	
17,000	68,000	.020833	.002216	.....	.....	
17,500	70,000	.023333	.002500	.....	.....	
18,000	72,000	.025667	.002334	.....	.....	
18,500	74,000	.028333	.002666	.....	.....	
19,000	76,000	.031417	.003084	.....	.....	
19,500	78,000	.034500	.003083	.....	.....	
20,000	80,000	.0383	.0038	.....	.....	
20,500	82,000	.0433	.0050	.....	.....	
21,000	84,000	.0500	.0067	.....	.....	
21,500	86,000	.0567	.0067	.....	.....	
22,000	88,000	.0667	.0100	.....	.....	
22,500	90,000	.0833	.0166	.....	.....	
22,990	91,960	.1333	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,960
Elastic limit per square inch of original section	do...	50,067
Elongation per inch after rupture	inch..	0.1667
Elongation per inch under strain at elastic limit	do...	.001717
Reduction in diameter at point of rupture	do...	.094
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		".270 from neck
Character of broken surface, granular; dull, flaky spot at circumference; opened cracks in surface of stem.		
Elongation of inch sections		".10, ".13, ".15, ".29*, ".19, ".14

No. 2582.

Marks, $\frac{8\ T\ Hex}{T_{14}\ I}$
Diameter, $\frac{11}{20}$.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000067	.000067	0.	.....	
2,500	10,000	.000250	.000183	0.	.....	
3,750	15,000	.000417	.000167	0.	.....	
5,000	20,000	.000583	.000166	0.	.....	
6,250	25,000	.000750	.000167	0.	.....	
7,500	30,000	.000917	.000167	0.	.....	
8,750	35,000	.001083	.000166	0.	.....	
9,000	36,000	.001150	.000067	.....	.....	
9,250	37,000	.001183	.000033	.....	.....	
9,500	38,000	.001233	.000050	.....	.....	
9,750	39,000	.001250	.000017	.....	.....	
10,000	40,000	.001283	.000033	.....	.....	
10,250	41,000	.001317	.000034	.....	.....	
10,500	42,000	.001350	.000033	.....	.....	
10,750	43,000	.001400	.000050	.....	.....	
11,000	44,000	.001417	.000017	.....	.....	
11,250	45,000	.001450	.000033	.....	.....	
11,500	46,000	.001483	.000033	.....	.....	
11,750	47,000	.001517	.000034	.....	.....	
12,000	48,000	.001583	.000066	.....	.....	
12,250	49,000	.001617	.000034	.....	.....	
12,500	50,000	.001650	.000033	.....	.....	
12,750	51,000	.001683	.000033	.....	.....	
13,000	52,000	.001700	.000017	.....	.....	
13,250	53,000	.001733	.000033	.....	.....	
13,500	54,000	.001750	.000017	.....	.....	
13,750	55,000	.001833	.000083	.....	.....	
14,000	56,000	.001900	.000067	.....	.....	Elastic limit.
14,250	57,000	.003833	.001933	.....	.....	
14,500	58,000	.007917	.004084	.....	.....	
14,750	59,000	.009583	.001666	.....	.....	
15,000	60,000	.010700	.001117	.....	.....	
15,500	62,000	.013000	.002300	.....	.....	
16,000	64,000	.015200	.002200	.....	.....	
16,500	66,000	.017333	.002133	.....	.....	
17,000	68,000	.019500	.002167	.....	.....	
17,500	70,000	.022167	.002667	.....	.....	
18,000	72,000	.024667	.002500	.....	.....	
18,500	74,000	.027667	.003000	.....	.....	
19,000	76,000	.030967	.003300	.....	.....	
19,500	78,000	.034583	.003616	.....	.....	
20,000	80,000	.0383	.003717	.....	.....	
20,500	82,000	.0450	.0067	.....	.....	
21,000	84,000	.0517	.0067	.....	.....	
21,500	86,000	.0600	.0083	.....	.....	
22,000	88,000	.0717	.0117	.....	.....	
22,500	90,000	.0917	.0200	.....	.....	
22,820	91,280	.1350	.0433	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	91,280
Elastic limit per square inch of original section	do...	56,000
Elongation per inch after rupture	inch..	0.1733
Elongation per inch under strain at elastic limit	do...	.001900
Reduction in diameter at point of rupture	do...	.184
Reduction in area after rupture, per centum of original section		54.6
Position of rupture		2″.85 from neck
Character of broken surface		silky
Elongation of inch sections		″.10, ″.15, ″.43, *″.15, ″.12, ″.09

No. 2583.

Marks, $\frac{8\,T\ Hex}{T_{15}\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000167	.000167	0.		
2,500	10,000	.000217	.000050	0.		
3,750	15,000	.000367	.000150	0.		
5,000	20,000	.000533	.000166	0.		
6,250	25,000	.000683	.000150	0.		
7,500	30,000	.000850	.000167	0.		
8,750	35,000	.001033	.000183	0.		
9,000	36,000	.001067	.000034			
9,250	37,000	.001100	.000033			
9,500	38,000	.001133	.000033			
9,750	39,000	.001200	.000067			
10,000	40,000	.001233	.000033			
10,250	41,000	.001267	.000034			
10,500	42,000	.001283	.000016			
10,750	43,000	.001317	.000034			
11,000	44,000	.001350	.000033			
11,250	45,000	.001367	.000017			
11,500	46,000	.001433	.000066			
11,750	47,000	.001500	.000067			Elastic limit.
12,000	48,000	.003083	.001583			
12,250	49,000	.006417	.003334			
12,500	50,000	.008667	.002250			
13,000	52,000	.010167	.001500			
13,500	54,000	.011667	.001500			
14,000	56,000	.013333	.001666			
14,500	58,000	.015200	.001867			
15,000	60,000	.017333	.002133			
15,500	62,000	.019133	.001800			
16,000	64,000	.021333	.002200			
16,500	66,000	.023750	.002417			
17,000	68,000	.026167	.002417			
17,500	70,000	.029000	.002833			
18,000	72,000	.031667	.002667			
18,500	74,000	.035500	.003833			
19,000	76,000	.0383	.0028			
19,500	78,000	.0450	.0067			
20,000	80,000	.0500	.0050			
20,500	82,000	.0567	.0067			
21,000	84,000	.0667	.0100			
21,500	86,000	.0800	.0133			
22,000	88,000	.1000	.0200			
22,240	88,960	.1400	.0400			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	88,960
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1917
Elongation per inch under strain at elastic limit	do...	.001500
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		2″.90 from neck
Character of broken surface		granular, 60 per centum; silky, 40 per centum
Elongation of inch sections		″.13, ″.21, ″.17, ″.36, ″.17, ″.11

No. 2584.

Marks, $\frac{8\text{ T Hex}}{T_{16}\text{ O}}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000117	.000117	0.		
2,500	10,000	.000283	.000166	0.		
3,750	15,000	.000483	.000200	0.		
5,000	20,000	.000667	.000184	0.		
6,250	25,000	.000833	.000166	0.		
7,500	30,000	.001000	.000167	0.		
8,750	35,000	.001167	.000167	0.		
9,000	36,000	.001200	.000033			
9,250	37,000	.001217	.000017			
9,500	38,000	.001267	.000050			
9,750	39,000	.001300	.000033			
10,000	40,000	.001317	.000017			
10,250	41,000	.001350	.000033			
10,500	42,000	.001383	.000033			
10,750	43,000	.001433	.000050			
11,000	44,000	.001500	.000067			
11,250	45,000	.001550	.000050			
11,500	46,000	.001583	.000033			
11,750	47,000	.001617	.000034			Elastic limit.
12,000	48,000	.004300	.002683			
12,250	49,000	.006233	.001933			
12,500	50,000	.008167	.001934			
13,000	52,000	.010167	.002000			
13,500	54,000	.012750	.002583			
14,000	56,000	.014417	.001667			
14,500	58,000	.016417	.002000			
15,000	60,000	.018833	.002416			
15,500	62,000	.021000	.002167			
16,000	64,000	.022667	.001667			
16,500	66,000	.026333	.003666			
17,000	68,000	.029833	.003500			
17,500	70,000	.0333	.003467			
18,000	72,000	.0367	.0034			
18,500	74,000	.0400	.0033			
19,000	76,000	.0433	.0033			
19,500	78,000	.0483	.0050			
20,000	80,000	.0567	.0084			
20,500	82,000	.0667	.0100			
21,000	84,000	.0767	.0100			
21,500	86,000	.0983	.0216			
21,880	87,520	.1400	.0417			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	87,520
Elastic limit per square inch of original section	do...	47,000
Elongation per inch after rupture	inch..	0.1700
Elongation per inch under strain at elastic limit	do...	.001617
Reduction in diameter at point of rupture	do...	.154
Reduction in area after rupture, per centum of original section		47.2
Position of rupture		1".85 from neck
Character of broken surface		fine; silky
Elongation of inch sections		".10, ".11, ".12, ".15, ".39, ".15

No. 2585.

Marks, $\frac{8\ T\ Hex}{T_{17}\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000283	.000183	0.	.....	
3,750	15,000	.000467	.000184	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.000967	.000167	0.	.....	
8,750	35,000	.001133	.000166	0.	.....	
9,000	36,000	.001183	.000050	.....	.....	
9,250	37,000	.001217	.000034	.....	.....	
9,500	38,000	.001267	.000050	.....	.....	
9,750	39,000	.001300	.000033	.....	.....	
10,000	40,000	.001333	.000033	.....	.....	
10,250	41,000	.001367	.000034	.....	.....	
10,500	42,000	.001400	.000033	.....	.....	
10,750	43,000	.001433	.000033	.....	.....	
11,000	44,000	.001483	.000050	.....	.....	
11,250	45,000	.001533	.000050	.....	.....	Elastic limit.
11,500	46,000	.008617	.007084	.....	.....	
11,750	47,000	.009000	.000383	.....	.....	
12,000	48,000	.009700	.000700	.....	.....	
12,250	49,000	.010433	.000733	.....	.....	
12,500	50,000	.011867	.001434	.....	.....	
13,000	52,000	.014000	.002133	.....	.....	
13,500	54,000	.016417	.002417	.....	.....	
14,000	56,000	.018933	.002516	.....	.....	
14,500	58,000	.021167	.002234	.....	.....	
15,000	60,000	.023750	.002583	.....	.....	
15,500	62,000	.027333	.003583	.....	.....	
16,000	64,000	.030200	.002867	.....	.....	
16,500	66,000	.034000	.003800	.....	.....	
17,000	68,000	.036700	.0027	.....	.....	
17,500	70,000	.0433	.0066	.....	.....	
18,000	72,000	.0500	.0067	.....	.....	
18,500	74,000	.0550	.0050	.....	.....	
19,000	76,000	.0683	.0133	.....	.....	
19,500	78,000	.0833	.0150	.....	.....	
20,000	80,000	.1067	.0234	.....	.....	
20,190	80,760	.1483	.0416	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,760
Elastic limit per square inch of original section	do...	45,000
Elongation per inch after rupture	inch..	0.1850
Elongation per inch under strain at elastic limit	do...	.001533
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		1".50 from neck
Character of broken surface		silky
Elongation of inch sections		".20, ".36*, ".17, ".16, ".13, ".09

No. 2586.

Marks, $\frac{8\ T\ Hex}{T_{18}\ I}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000083	.000083	0.		
2,500	10,000	.000267	.000184	0.		
3,750	15,000	.000433	.000166	0.		
5,000	20,000	.000600	.000167	0.		
6,250	25,000	.000767	.000167	0.		
7,500	30,000	.000933	.000166	0.		
8,750	35,000	.001100	.000167	0.		
9,000	36,000	.001133	.000033			
9,250	37,000	.001183	.000050			
9,500	38,000	.001200	.000017			
9,750	39,000	.001233	.000033			
10,000	40,000	.001283	.000050			
10,250	41,000	.001317	.000034			
10,500	42,000	.001383	.000066			
10,750	43,000	.001417	.000034			
11,000	44,000	.001433	.000016			
11,250	45,000	.001483	.000050			
11,500	46,000	.001517	.000034			
11,750	47,000	.001567	.000050			
12,000	48,000	.001600	.000033			
12,250	49,000	.001633	.000033			
12,500	50,000	.001683	.000050			
12,750	51,000	.001783	.000050			Elastic limit.
13,000	52,000	.010200	.008467			
13,250	53,000	.010750	.000550			
13,500	54,000	.012250	.001500			
14,000	56,000	.014500	.002250			
14,500	58,000	.016667	.002167			
15,000	60,000	.019167	.002500			
15,500	62,000	.022167	.003000			
16,000	64,000	.025000	.002833			
16,500	66,000	.027333	.002333			
17,000	68,000	.030833	.003500			
17,500	70,000	.034000	.003167			
18,000	72,000	.0367	.0027			
18,500	74,000	.0433	.0066			
19,000	76,000	.0500	.0067			
19,500	78,000	.0550	.0050			
20,000	80,000	.0683	.0133			
20,500	82,000	.0833	.0150			
21,000	84,000	.1100	.0267			
21,100	84,400	.1417	.0317			Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	84,400
Elastic limit per square inch of original section	do	51,000
Elongation per inch after rupture	inch	0.1833
Elongation per inch under strain at elastic limit	do	.001733
Reduction in diameter at point of rupture	do	.204
Reduction in area after rupture, per centum of original section		59.3
Position of rupture		2".50 from neck
Character of broken surface		fine silky
Elongation of inch sections		".09, ".12, ".13, ".39*, ".28, ".15

10-INCH STEEL B. L. RIFLE NO. 1.

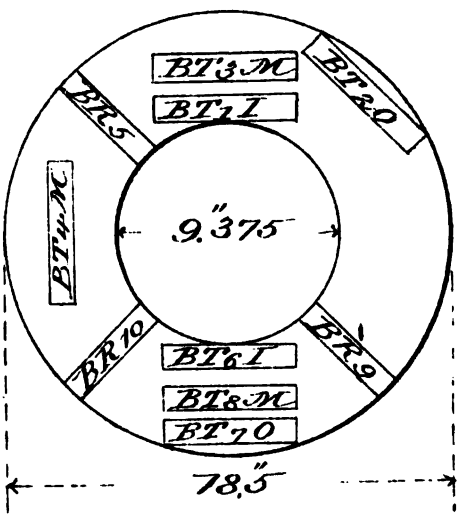
STEEL SPECIMENS FROM

TUBE, JACKET, TRUNNION HOOP, AND HOOPS.

10" Steel B. L. Rifle No. 1

Tube

Breech end



H Ex 31 49 2

TUBE—WHITWORTH STEEL.

No. 2740.

Marks, $\frac{10\ R_1\ T}{B\ T_1\ I}$
Diameter, $\frac{1}{2}$".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000200	.000200	.000033	.000033	
2,500	10,000	.000400	.000200	.000067	.000034	
3,750	15,000	.000633	.000233	.000067	0.	
5,000	20,000	.000833	.000200	.000067	0.	
6,250	25,000	.000967	.000134	.000067	0.	
7,500	30,000	.001200	.000233	.000100	.000033	
7,750	31,000	.001233	.000033	.....	.....	
8,000	32,000	.001267	.000034	.....	.....	
8,250	33,000	.001300	.000033	.....	.....	Elastic limit.
8,500	34,000	.001500	.000200	.....	.....	
8,750	35,000	.002667	.001167	.001333	.001233	
9,000	36,000	.003333	.000666	.....	.....	
9,250	37,000	.003600	.000267	.....	.....	
9,500	38,000	.004267	.000667	.....	.....	
9,750	39,000	.005000	.000733	.....	.....	
10,000	40,000	.005800	.000800	.....	.....	
10,250	41,000	.006600	.000800	.....	.....	
10,500	42,000	.007433	.000833	.....	.....	
10,750	43,000	.008167	.000734	.....	.....	
11,000	44,000	.009067	.000900	.....	.....	
11,250	45,000	.009900	.000833	.....	.....	
11,500	46,000	.011167	.001267	.....	.....	
11,750	47,000	.012067	.000900	.....	.....	
12,000	48,000	.012800	.000733	.....	.....	
12,250	49,000	.014000	.001200	.....	.....	
12,500	50,000	.014733	.000733	.....	.....	
13,000	52,000	.017167	.002434	.....	.....	
13,500	54,000	.019500	.002333	.....	.....	
14,000	56,000	.022167	.002667	.....	.....	
14,500	58,000	.025000	.002833	.....	.....	
15,000	60,000	.028167	.003167	.....	.....	
15,500	62,000	.031667	.003500	.....	.....	
16,000	64,000	.035500	.003833	.....	.....	
16,500	66,000	.039500	.004000	.....	.....	
17,000	68,000	.0433	.0038	.....	.....	
15,500	70,000	.0533	.0100	.....	.....	
18,000	72,000	.0633	.0100	.....	.....	
18,500	74,000	.0700	.0067	.....	.....	
19,000	76,000	.0833	.0133	.....	.....	
19,500	78,000	.1033	.0200	.....	.....	
19,900	79,600	.1600	.0567	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,600
Elastic limit per square inch of original section	do ..	33,000
Elongation per inch after rupture	inch..	0.2000
Elongation per inch under strain at elastic limit	do...	.001300
Reduction in diameter at point of rupture	do...	.104
Reduction in area after rupture, per centum of original section		33.5
Position of rupture		¾ inch from neck
Character of broken surface	granular, 60 per centum; silky, 40 per centum	
Elongation of inch sections		".30", ".17, ".13

No. 2741.

Marks, $\frac{10\ R_1\ T}{B\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000500	.000167	0.	.....	
5,000	20,000	.000667	.000167	0.	.....	
6,250	25,000	.000833	.000166	0.	.....	
7,500	30,000	.001000	.000167	0.	.....	
7,750	31,000	.001033	.000033	.....	.....	
8,000	32,000	.001067	.000034	.....	.....	
8,250	33,000	.001100	.000033	.....	.....	
8,500	34,000	.001167	.000067	.....	.....	
8,750	35,000	.001167	0.	.000033	.000033	
9,000	36,000	.001200	.000033	.....	.....	
9,250	37,000	.001267	.000067	.....	.....	Elastic limit.
9,500	38,000	.002000	.000733	.....	.....	
9,750	39,000	.002333	.000333	.....	.....	
10,000	40,000	.002600	.000267	.....	.....	
10,250	41,000	.002833	.000233	.....	.....	
10,500	42,000	.003133	.000300	.....	.....	
10,750	43,000	.003400	.000267	.....	.....	
11,000	44,000	.003767	.000367	.....	.....	
11,250	45,000	.004133	.000366	.....	.....	
11,500	46,000	.005000	.000867	.....	.....	
11,750	47,000	.005600	.000600	.....	.....	
12,000	48,000	.005933	.000333	.....	.....	
12,250	49,000	.006667	.000734	.....	.....	
12,500	50,000	.007833	.001166	.....	.....	
13,000	52,000	.009667	.001834	.....	.....	
13,500	54,000	.011667	.002000	.....	.....	
14,000	56,000	.013833	.002166	.....	.....	
14,500	58,000	.015667	.001834	.....	.....	
15,000	60,000	.017567	.001900	.....	.....	
15,500	62,000	.019967	.002300	.....	.....	
16,000	64,000	.022333	.002466	.....	.....	
16,500	66,000	.025000	.002667	.....	.....	
17,000	68,000	.028333	.003333	.....	.....	
17,500	70,000	.032000	.003367	.....	.....	
18,000	72,000	.035000	.003000	.....	.....	
18,500	74,000	.0400	.0050	.....	.....	
19,000	76,000	.0433	.0033	.....	.....	
19,500	78,000	.0467	.0034	.....	.....	
20,000	80,000	.0567	.0100	.....	.....	
20,500	82,000	.0667	.0100	.....	.....	
21,000	84,000	.0800	.0133	.....	.....	
21,440	85,760	.1133	.0333	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	85,760
Elastic limit per square inch of original section	do...	37,000
Elongation per inch after rupture	inch..	0.2167
Elongation per inch under strain at elastic limit	do...	.001267
Reduction in diameter at point of rupture	do ..	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		".85 from neck
Character of broken surface		silky
Elongation of inch sections		".10, ".17, ".38"

No. 2739.

Marks, $\frac{10\ R_1\ T}{B\ T_2\ M}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000333	.000200	0.	.....	
3,750	15,000	.000467	.000134	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000800	.000167	0.	.....	
7,500	30,000	.001033	.000233	0.	.....	
7,750	31,000	.001067	.000034	.....	.....	
8,000	32,000	.001067	0.	.....	.....	
8,250	33,000	.001100	.000033	.....	.....	
8,500	34,000	.001167	.000067	.....	.....	
8,750	35,000	.001233	.000066	.000033	.000033	Elastic limit.
9,000	36,000	.001433	.000200	.....	.....	
9,250	37,000	.001733	.000300	.....	.....	
9,500	38,000	.002267	.000534	.....	.....	
9,750	39,000	.002867	.000600	.....	.....	
10,000	40,000	.003333	.000466	.....	.....	
10,250	41,000	.004000	.000667	.....	.....	
10,500	42,000	.004367	.000367	.....	.....	
10,750	43,000	.005000	.000633	.....	.....	
11,000	44,000	.005833	.000833	.....	.....	
11,250	45,000	.006600	.000767	.....	.....	
11,500	46,000	.007333	.000733	.....	.....	
11,750	47,000	.008067	.000734	.....	.....	
12,000	48,000	.009167	.001100	.....	.....	
12,250	49,000	.010000	.000833	.....	.....	
12,500	50,000	.011000	.001000	.....	.....	
13,000	52,000	.012500	.001500	.....	.....	
13,500	54,000	.014867	.002367	.....	.....	
14,000	56,000	.017333	.002466	.....	.....	
14,500	58,000	.019667	.002334	.....	.....	
15,000	60,000	.022333	.002666	.....	.....	
15,500	62,000	.024667	.002334	.....	.....	
16,000	64,000	.027400	.002733	.....	.....	
16,500	66,000	.030833	.003433	.....	.....	
17,000	68,000	.034333	.003500	.....	.....	
17,500	70,000	.038167	.003834	.....	.....	
18,000	72,000	.0433	.005133	.....	.....	
18,500	74,000	.0500	.0067	.....	.....	
19,000	76,000	.0567	.0067	.....	.....	
19,500	78,000	.0667	.0100	.....	.....	
20,000	80,000	.0767	.0100	.....	.....	
20,500	82,000	.0933	.0166	.....	.....	
20,970	83,880	.1483	.0500	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	83,880
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2200
Elongation per inch under strain at elastic limit	do...	.001233
Reduction in diameter at point of rupture	do...	.144
Reduction in area after rupture, per centum of original section		44.6
Position of rupture		1″.25 from neck
Character of broken surface		silky
Elongation of inch sections		″.14, ″.32*, ″.20

No. 2738.

Marks, $\frac{10\ B_1\ T}{B\ T_4\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000600	.000167	0.	.....	
6,250	25,000	.000767	.000167	0.	.....	
7,500	30,000	.001000	.000233	0.	.....	
7,750	31,000	.001033	.000033	.....	.....	
8,000	32,000	.001100	.000067	.....	.....	
8,250	33,000	.001167	.000067	.....	.....	
8,500	34,000	.001267	.000100	.....	.....	
8,750	35,000	.001333	.000066	.000133	.000133	Elastic limit.
9,000	36,000	.001500	.000167	.....	.....	
9,250	37,000	.002667	.001167	.....	.....	
9,500	38,000	.003167	.000500	.....	.....	
9,750	39,000	.003600	.000433	.....	.....	
10,000	40,000	.003800	.000200	.....	.....	
10,250	41,000	.004267	.000467	.....	.....	
10,500	42,000	.004767	.000500	.....	.....	
10,750	43,000	.005333	.000566	.....	.....	
11,000	44,000	.006500	.001167	.....	.....	
11,250	45,000	.007333	.000833	.....	.....	
11,500	46,000	.008000	.000667	.....	.....	
11,750	47,000	.008667	.000667	.....	.....	
12,000	48,000	.009667	.001000	.....	.....	
12,250	49,000	.010433	.000766	.....	.....	
12,500	50,000	.011500	.001067	.....	.....	
13,000	52,000	.013333	.001833	.....	.....	
13,500	54,000	.015500	.002167	.....	.....	
14,000	56,000	.017667	.002167	.....	.....	
14,500	58,000	.019933	.002266	.....	.....	
15,000	60,000	.022500	.002567	.....	.....	
15,500	62,000	.025333	.002833	.....	.....	
16,000	64,000	.028000	.002667	.....	.....	
16,500	66,000	.031367	.003367	.....	.....	
17,000	68,000	.035333	.003966	.....	.....	
17,500	70,000	.039333	.004000	.....	.....	
18,000	72,000	.0433	.003967	.....	.....	
18,500	74,000	.0500	.0067	.....	.....	
19,000	76,000	.0600	.0100	.....	.....	
19,500	78,000	.0700	.0100	.....	.....	
20,000	80,000	.0800	.0100	.....	.....	
20,500	82,000	.1033	.0233	.....	.....	
20,730	82,920	.1506	.0467	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	82,920
Elastic limit per square inch of original section	do...	35,000
Elongation per inch after rupture	inch..	0.2123
Elongation per inch under strain at elastic limit	do...	.001533
Reduction in diameter at point of rupture	do...	.124
Reduction in area after rupture, per centum of original section		39.2
Position of rupture		1" 40 from neck
Character of broken surface		silky; slightly granular
Elongation of inch sections		".20, ".32", ".12

No. 2742.

Marks, $^{10\ B,\ T}_{B\ Rs}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000150	.000150	0.	.....	
2,500	10,000	.000300	.000150	0.	.....	
3,750	15,000	.000500	.000200	0.	.....	
5,000	20,000	.000650	.000150	0.	.....	
6,250	25,000	.000800	.000150	0.	.....	
7,500	30,000	.000950	.000150	0.	.....	
7,750	31,000	.001000	.000050	.....	.....	Elastic limit.
8,000	32,000	.001400	.000400	.....	.....	
8,250	33,000	.001550	.000150	.....	.....	
8,500	34,000	.001750	.000200	.....	.....	
8,750	35,000	.002150	.000400	.000850	.000850	
9,000	36,000	.002450	.000300	.....	.....	
9,250	37,000	.002700	.000250	.....	.....	
9,500	38,000	.003400	.000700	.....	.....	
9,750	39,000	.003900	.000500	.....	.....	
10,000	40,000	.004500	.000600	.....	.....	
10,250	41,000	.005000	.000500	.....	.....	
10,500	42,000	.005600	.000600	.....	.....	
10,750	43,000	.006250	.000650	.....	.....	
11,000	44,000	.007000	.000750	.....	.....	
11,250	45,000	.007800	.000800	.....	.....	
11,500	46,000	.008600	.000800	.....	.....	
11,750	47,000	.009250	.000650	.....	.....	
12,000	48,000	.010250	.001000	.....	.....	
12,250	49,000	.011200	.000950	.....	.....	
12,500	50,000	.012250	.001050	.....	.....	
13,000	52,000	.014500	.002250	.....	.....	
13,500	54,000	.016700	.002200	.....	.....	
14,000	56,000	.019000	.002300	.....	.....	
14,500	58,000	.021650	.002650	.....	.....	
15,000	60,000	.024250	.002600	.....	.....	
15,500	62,000	.027000	.002750	.....	.....	
16,000	64,000	.030250	.003250	.....	.....	
16,500	66,000	.034000	.003750	.....	.....	
17,000	68,000	.038500	.004500	.....	.....	
17,500	70,000	.043000	.004500	.....	.....	
18,000	72,000	.048250	.005250	.....	.....	
18,500	74,000	.054750	.006500	.....	.....	
19,000	76,000	.0600	.005250	.....	.....	
19,500	78,000	.0750	.0150	.....	.....	
20,000	80,000	.1000	.0250	.....	.....	
20,150	80,600	.1200	.0200	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	80,600
Elastic limit per square inch of original section	do...	31,000
Elongation per inch after rupture	inch..	0.1550
Elongation per inch under strain at elastic limit	do...	.001000
Reduction in diameter at point of rupture	do...	.084
Reduction in area after rupture, per centum of original section		27.6
Position of rupture		".35 from neck
Character of broken surface		granular; dull silky spot at the circumference
Elongation of inch sections		".23*, ".08

No. 699.

Marks, $\frac{10\ R,\ T}{B\ T,\ I}$
Length, 5″.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000267	.000134	0.	.....	
7,500	15,000	.000467	.000200	0.	.....	
10,000	20,000	.000633	.000166	0.	.....	
12,500	25,000	.000833	.000200	0.	.....	
13,000	26,000	.000867	.000034	.....	.....	
13,500	27,000	.000900	.000033	.....	.....	
14,000	28,000	.000933	.000033	.....	.....	
14,500	29,000	.000967	.000034	.....	.....	
15,000	30,000	.001000	.000033	.000033	.000033	
15,500	31,000	.001067	.000067	.....	.....	
16,000	32,000	.001100	.000033	.....	.....	
16,500	33,000	.001167	.000067	.....	.....	
17,000	34,000	.001200	.000033	.....	.....	
17,500	35,000	.001267	.000067	.000067	.000034	Elastic limit.
18,000	36,000	.001500	.000233	.....	.....	
18,500	37,000	.002067	.000567	.....	.....	
19,000	38,000	.002600	.000533	.....	.....	
19,500	39,000	.003033	.000433	.....	.....	
20,000	40,000	.003667	.000634	.....	.....	
20,500	41,000	.004133	.000466	.....	.....	
21,000	42,000	.004900	.000767	.....	.....	
21,500	43,000	.005500	.000600	.....	.....	
22,000	44,000	.006400	.000900	.....	.....	
36,860	73,720	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	35,000
Compression per inch under stress at elastic limit	inch..	0.001267
Ultimate strength per square inch of original section	pounds..	73,720
Manner of failure		triple flexure

No. 700.

Marks, $\frac{10\ R;\ T}{B\ T;\ O}$
Length, 4″.992.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000233	.000133	0.	.....	
7,500	15,000	.000433	.000200	0.	.....	
10,000	20,000	.000600	.000167	0.	.....	
12,500	25,000	.000800	.000200	0.	.....	
13,000	26,000	.000833	.000033	.....	.....	
13,500	27,000	.000833	0.	.....	.....	
14,000	28,000	.000867	.000034	.....	.....	
14,500	29,000	.000900	.000033	.....	.....	
15,000	30,000	.000933	.000033	— .000033	— .000033	
15,500	31,000	.000967	.000034	.....	.....	
16,000	32,000	.001000	.000033	.....	.....	
16,500	33,000	.010033	.000033	.....	.....	
17,000	34,000	.001100	.000067	.....	.....	
17,500	35,000	.001133	.000033	— .000033	0.	
18,000	36,000	.001133	0.	.....	.....	
18,500	37,000	.001167	.000034	.....	.....	
19,000	38,000	.001233	.000066	.....	.....	
19,500	39,000	.001267	.000034	.....	.....	
20,000	40,000	.001300	.000033	0.	.000033	Elastic limit.
20,500	41,000	.001533	.000233	.....	.....	
21,000	42,000	.001933	.000400	.....	.....	
21,500	43,000	.002300	.000367	.....	.....	
22,000	44,000	.027000	.000400	.....	.....	
22,500	45,000	.003267	.000567	.....	.....	
23,000	46,000	.003900	.000633	.....	.....	
23,500	47,000	.004500	.000600	.....	.....	
24,000	48,000	.005200	.000700	.....	.....	
24,500	49,000	.005600	.000400	.....	.....	
25,000	50,000	.006567	.000967	.....	.....	
40,500	81,000	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	40,000
Compression per inch under stress at elastic limit	inch...	0.001300
Ultimate strength per square inch of original section	pounds..	81,000
Manner of failure		triple flexure

No. 701.

Marks, $\frac{10\ R,\ T}{B\ T,\ M}$
Length, 4″.995.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000300	.000167	0.	.....	
7,500	15,000	.000467	.000167	0.	.....	
10,000	20,000	.000633	.000166	0.	.....	
12,500	25,000	.000833	.000200	0.	.....	
13,000	26,000	.000867	.000034	.....	.....	
13,500	27,000	.000900	.000033	.....	.....	
14,000	28,000	.000933	.000033	.....	.....	
14,500	29,000	.000967	.000034	.....	.....	
15,000	30,000	.001000	.000033	.000033	.000033	
15,500	31,000	.001067	.000067	.....	.....	
16,000	32,000	.001133	.000066	.....	.....	
16,500	33,000	.001200	.000067	.....	.....	Elastic limit.
17,000	34,000	.001600	.000400	.....	.....	
17,500	35,000	.002133	.000533	.000867	.000834	
18,000	36,000	.002433	.000300	.....	.....	
18,500	37,000	.002867	.000434	.....	.....	
19,000	38,000	.003267	.000400	.....	.....	
19,500	39,000	.004000	.000733	.....	.....	
20,000	40,000	.004367	.000367	.....	.....	
20,500	41,000	.005000	.000633	.....	.....	
21,000	42,000	.005667	.000667	.....	.....	
21,500	43,000	.006300	.000633	.....	.....	
22,000	44,000	.007100	.000800	.....	.....	
36,750	73,500	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	33,000
Compression per inch under stress at elastic limit	inch..	0.001200
Ultimate strength per square inch of original section	pounds..	73,500
Manner of failure		triple flexure

No. 697.

Marks, $\frac{10\ R_1\ T}{B\ R_2}$
Length, 4″.419.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000267	.000167	0.	.....	
7,500	15,000	.000433	.000166	0.	.....	
10,000	20,000	.000600	.000167	0.	.....	
12,500	25,000	.000767	.000167	0.	.....	
13,000	26,000	.000800	.000033	.....	.....	
13,500	27,000	.000833	.000033	.....	.....	
14,000	28,000	.000900	.000067	.....	.....	
14,500	29,000	.000933	.000033	.....	.....	
15,000	30,000	.001000	.000067	.000033	.000033	
15,500	31,000	.001033	.000033	.....	.....	
16,000	32,000	.001067	.000034	.....	.....	
16,500	33,000	.001133	.000066	.....	.....	
17,000	34,000	.001200	.000067	.....	.....	Elastic limit.
17,500	35,000	.001800	.000600	.000667	.000634	
18,000	36,000	.002233	.000433	.....	.....	
18,500	37,000	.002600	.000367	.....	.....	
19,000	38,000	.003200	.000600	.....	.....	
19,500	39,000	.003667	.000467	.....	.....	
20,000	40,000	.004167	.000500	.....	.....	
20,500	41,000	.004700	.000533	.....	.....	
21,000	42,000	.005300	.000600	.....	.....	
21,500	43,000	.005967	.000667	.....	.....	
22,000	44,000	.006833	.000866	.....	.....	
41,380	82,760	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	34,000
Compression per inch under stress at elastic limit	inch..	0.001200
Ultimate strength per square inch of original section	pounds..	82,760
Manner of failure		triple flexure

No. 698.

Marks, $\frac{10\ R,\ T}{B\ R_{10}}$
Length, 4″.423.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000233	.000133	0.	.....	
7,500	15,000	.000433	.000200	0.	.....	
10,000	20,000	.000633	.000200	0.	.....	
12,500	25,000	.000833	.000200	0.	.....	
13,000	26,000	.000867	.000034	.....	.....	
13,500	27,000	.000900	.000033	.....	.....	
14,000	28,000	.000933	.000033	.....	.....	
14,500	29,000	.000967	.000034	.....	.....	
15,000	30,000	.001000	.000033	.000067	.000067	
15,500	31,000	.001067	.000067	.....	.....	
16,000	32,000	.001100	.000033	.....	.....	
16,500	33,000	.001167	.000067	.....	.....	
17,000	34,000	.001233	.000066	.....	.....	Elastic limit.
17,500	35,000	.001633	.000400	.000567	.000500	
18,000	36,000	.002167	.000534	.....	.....	
18,500	37,000	.002700	.000533	.....	.....	
19,000	38,000	.003200	.000500	.....	.....	
19,500	39,000	.003700	.000500	.....	.....	
20,000	40,000	.004133	.000433	.....	.....	
20,500	41,000	.004600	.000467	.....	.....	
21,000	42,000	.005467	.000867	.....	.....	
21,500	43,000	.005900	.000433	.....	.....	
22,000	44,000	.006533	.000633	.....	.....	
40,420	80,840	.....	.....	.....	.....	Ultimate strength.

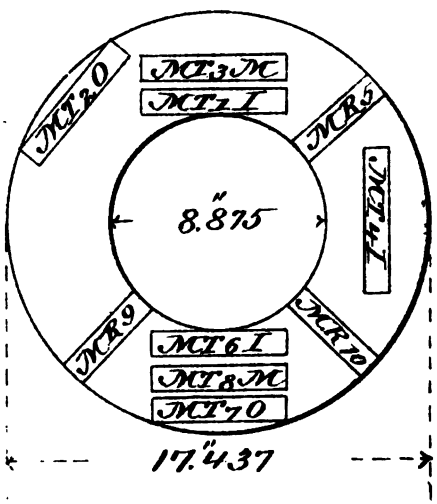
General summary.

Elastic limit per square inch of original section	pounds..	34,000
Compression per inch under stress at elastic limit	inch..	0.001233
Ultimate strength per square inch of original section	pounds.	80,840
Manner of failure		triple flexure

10" Steel B.L. Rifle No. 1

Tube

Muzzle end



H Ex 31 49 2

No. 2657.

Marks, $\frac{10\ R;\ T}{M\ T,\ I}$
Diameter, ″.564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	.....	.....	
2,500	10,000	.000233	.000133	.....	.....	
3,750	15,000	.000400	.000167	.....	.....	
5,000	20,000	.000633	.000233	.....	.....	
6,250	25,000	.000833	.000200	.....	.....	
7,500	30,000	.001100	.000267	.000100	.000100	
7,750	31,000	.001167	.000067	.....	.....	Elastic limit.
8,000	32,000	.001333	.000166	.....	.....	
8,250	33,000	.001667	.000334	.....	.....	
8,500	34,000	.002167	.000500	.....	.....	
8,750	35,000	.002667	.000500	.001367	.001267	
9,000	36,000	.002900	.000233	.....	.....	
9,250	37,000	.003138	.000238	.....	.....	
9,500	38,000	.003500	.000367	.....	.....	
9,750	39,000	.003767	.000267	.....	.....	
10,000	40,000	.004400	.000633	.....	.....	
10,250	41,000	.004767	.000367	.....	.....	
10,500	42,000	.005200	.000433	.....	.....	
10,750	43,000	.005667	.000467	.....	.....	
11,000	44,000	.006500	.000833	.....	.....	
11,250	45,000	.006900	.000400	.....	.....	
11,500	46,000	.007467	.000567	.....	.....	
11,750	47,000	.008100	.000633	.....	.....	
12,000	48,000	.008833	.000733	.....	.....	
12,250	49,000	.009567	.000734	.....	.....	
12,500	50,000	.010333	.000766	.....	.....	
13,000	52,000	.011767	.001434	.....	.....	
13,500	54,000	.013733	.001966	.....	.....	
14,000	56,000	.015667	.001934	.....	.....	
14,500	58,000	.017733	.002066	.....	.....	
15,000	60,000	.019867	.002134	.....	.....	
15,500	62,000	.022400	.002533	.....	.....	
16,000	64,000	.025033	.002633	.....	.....	
16,500	66,000	.028000	.002967	.....	.....	
17,000	68,000	.031333	.003333	.....	.....	
17,500	70,000	.035000	.003667	.....	.....	
18,000	72,000	.038333	.003333	.....	.....	
18,500	74,000	.041667	.003334	.....	.....	
19,000	76,000	.0533	.011633	.....	.....	
19,500	78,000	.0600	.0067	.....	.....	
20,000	80,000	.0667	.0067	.....	.....	
20,500	82,000	.0767	.0100	.....	.....	
21,000	84,000	.0967	.0200	.....	.....	
21,450	85,800	.1600	.0633	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	85,800
Elastic limit per square inch of original section	do...	31,000
Elongation per inch after rupture	inch..	0.2100
Elongation per inch under strain at elastic limit	do...	.001167
Reduction in diameter at point of rupture	do...	.114
Reduction in area after rupture, per centum of original section		36.4
Position of rupture		½ inch from neck
Character of broken surface	granular; radiating from a silky spot at the circumference	
Elongation of inch sections		″.30*, ″.18, ″.15

No. 2658.

Marks, $\frac{10\ R_1\ T}{M\ T_2\ O}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000133	0.	.....	
2,500	10,000	.000267	.000134	0.	.....	
3,750	15,000	.000433	.000166	0.	.....	
5,000	20,000	.000633	.000200	0.	.....	
6,250	25,000	.000767	.000134	0.	.....	
7,500	30,000	.001000	.000233	0.	.....	
7,760	31,000	.001033	.000033	.....	.....	
8,000	32,000	.001067	.000034	.....	.....	Elastic limit.
8,250	33,000	.006300	.005233	.....	.....	
8,500	34,000	.007467	.001167	.....	.....	
8,750	35,000	.007933	.000466	.....	.....	
9,000	36,000	.009000	.001067	.....	.....	
9,250	37,000	.009667	.000667	.....	.....	
9,500	38,000	.010833	.001166	.....	.....	
9,750	39,000	.012000	.001167	.....	.....	
10,000	40,000	.012700	.000700	.....	.....	
10,250	41,000	.013567	.000867	.....	.....	
10,500	42,000	.014833	.001266	.....	.....	
10,750	43,000	.015833	.001000	.....	.....	
11,000	44,000	.017067	.001234	.....	.....	
11,250	45,000	.018033	.000966	.....	.....	
11,500	46,000	.019500	.001467	.....	.....	
11,750	47,000	.020667	.001167	.....	.....	
12,000	48,000	.022000	.001333	.....	.....	
12,250	49,000	.023467	.001467	.....	.....	
12,500	50,000	.025333	.001866	.....	.....	
13,000	52,000	.028400	.003067	.....	.....	
13,500	54,000	.032000	.003600	.....	.....	
14,000	56,000	.036167	.004167	.....	.....	
14,500	58,000	.038333	.002166	.....	.....	
15,000	60,000	.041667	.003334	.....	.....	
15,500	62,000	.0533	.011633	.....	.....	
16,000	64,000	.0633	.0100	.....	.....	
16,500	66,000	.0700	.0067	.....	.....	
17,000	68,000	.0867	.0167	.....	.....	
17,500	70,000	.1033	.0166	.....	.....	
18,000	72,000	.1567	.0534	.....	.....	
18,060	72,240	.1800	.0233	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds	72,240
Elastic limit per square inch of original section	do	32,000
Elongation per inch after rupture	inch	0.3600
Elongation per inch under strain at elastic limit	do	.001067
Reduction in diameter at point of rupture	do	.134
Reduction in area after rupture, per centum of original section		41.9
Position of rupture		".90 from neck
Character of broken surface		silky
Elongation of inch sections		".16, ".24, ".38

No. 2659.

Marks, $\frac{\text{I O R, T}}{\text{M T, M}}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000100	.000100	0.	.....	
2,500	10,000	.000233	.000133	0.	.....	
3,750	15,000	.000400	.000167	0.	.....	
5,000	20,000	.000567	.000167	0.	.....	
6,250	25,000	.000733	.000166	0.	.....	
7,500	30,000	.000967	.000234	0.	.....	
7,750	31,000	.001000	.000033	.....	.....	
8,000	32,000	.001033	.000033	.....	.....	
8,250	33,000	.001100	.000067	.....	.....	Elastic limit.
8,500	34,000	.001400	.000300	.....	.....	
8,750	35,000	.002133	.000733	.....	.....	
9,000	36,000	.002800	.000667	.....	.....	
9,250	37,000	.003333	.000533	.....	.....	
9,500	38,000	.004167	.000834	.....	.....	
9,750	39,000	.004767	.000600	.....	.....	
10,000	40,000	.005667	.000900	.....	.....	
10,250	41,000	.006333	.000666	.....	.....	
10,500	42,000	.007267	.000934	.....	.....	
10,750	43,000	.008100	.000833	.....	.....	
11,000	44,000	.008833	.000733	.....	.....	
11,250	45,000	.009800	.000967	.....	.....	
11,500	46,000	.010733	.000933	.....	.....	
11,750	47,000	.011667	.000934	.....	.....	
12,000	48,000	.012667	.001000	.....	.....	
12,250	49,000	.013567	.000900	.....	.....	
12,500	50,000	.014733	.001166	.....	.....	
13,000	52,000	.017067	.002334	.....	.....	
13,500	54,000	.019667	.002600	.....	.....	
14,000	56,000	.022500	.002833	.....	.....	
14,500	58,000	.025667	.003167	.....	.....	
15,000	60,000	.028667	.003000	.....	.....	
15,500	62,000	.033000	.004333	.....	.....	
16,000	64,000	.036667	.003667	.....	.....	
16,500	66,000	.0400	.003333	.....	.....	
17,000	68,000	.0500	.0100	.....	.....	
17,500	70,000	.0567	.0067	.....	.....	
18,000	72,000	.0667	.0100	.....	.....	
18,500	74,000	.0767	.0100	.....	.....	
19,000	76,000	.0967	.0200	.....	.....	
19,500	78,000	.1400	.0433	.....	.....	
19,550	78,200	.1700	.0300	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	78,200
Elastic limit per square inch of original section	do...	33,000
Elongation per inch after rupture	inch..	0.2367
Elongation per inch under strain at elastic limit	do...	.001100
Reduction in diameter at point of rupture	do...	.084
Reduction in area after rupture, per centum of original section		27.6
Position of rupture		1".60 from neck
Character of broken surface		granular; radiating from a dull silky spot at circumference
Elongation of inch sections		".19, ".31*, ".21

No. 2660.

Marks, $\frac{10\ R,\ T}{M\ T,\ M}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0.	0.	0.	0.	Initial load.
1,250	5,000	.000133	.000123	0.	.....	
2,500	10,000	.000300	.000167	0.	.....	
3,750	15,000	.000467	.000167	0.	.....	
5,000	20,000	.000633	.000166	0.	.....	
6,250	25,000	.000867	.000234	.000033	.000033	
7,500	30,000	.001133	.000266	.000133	.000100	Elastic limit.
7,750	31,000	.001233	.000100	.....	.....	
8,000	32,000	.001333	.000100	.....	.....	
8,250	33,000	.001567	.000234	.....	.....	
8,500	34,000	.001933	.000366	.....	.....	
8,750	35,000	.002600	.000667	.....	.....	
9,000	36,000	.003733	.001133	.....	.....	
9,250	37,000	.004833	.001100	.....	.....	
9,500	38,000	.005167	.000834	.....	.....	
9,750	39,000	.006000	.000833	.....	.....	
10,000	40,000	.006767	.000767	.....	.....	
10,250	41,000	.007500	.000733	.....	.....	
10,500	42,000	.008433	.000933	.....	.....	
10,750	43,000	.009167	.000734	.....	.....	
11,000	44,000	.010067	.000900	.....	.....	
11,250	45,000	.010833	.000766	.....	.....	
11,500	46,000	.012000	.001167	.....	.....	
11,750	47,000	.012833	.001633	.....	.....	
12,000	48,000	.014000	.001167	.....	.....	
12,250	49,000	.015000	.001000	.....	.....	
12,500	50,000	.016333	.001333	.....	.....	
13,000	52,000	.018667	.002334	.....	.....	
13,500	54,000	.021333	.002666	.....	.....	
14,000	56,000	.024367	.003034	.....	.....	
14,500	58,000	.027333	.002966	.....	.....	
15,000	60,000	.030667	.001334	.....	.....	
15,500	62,000	.034667	.004000	.....	.....	
16,000	64,000	.039000	.004333	.....	.....	
16,500	66,000	.0433	.0043	.....	.....	
17,000	68,000	.0500	.0067	.....	.....	
17,500	70,000	.0600	.0100	.....	.....	
18,000	72,000	.0700	.0100	.....	.....	
18,500	74,000	.0833	.0133	.....	.....	
19,000	76,000	.1033	.0200	.....	.....	
19,430	77,720	.1700	.0667	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	77,720
Elastic limit per square inch of original section	do....	30,000
Elongation per inch after rupture	inch..	0.2567
Elongation per inch under strain at elastic limit	do....	.001133
Reduction in diameter at point of rupture	do....	.1694
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		1.12 inches from neck
Character of broken surface		granular, 50 per centum; silky, 50 per centum
Drew down to		".46 diameter ¾ inch from point of rupture
Elongation of inch sections		".28", ".32, ".17

No. 2661.

Marks, $\frac{10\ R_1\ T}{M\ R_8}$
Diameter, ".564.
Sectional area, .25 square inch.

Applied loads.		Elongation per inch.	Successive elongation per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
250	1,000	0..	0.	0.	0.	Initial load.
1,250	5,000	.000050	.000050	0.	.....	
2,500	10,000	.000200	.000150	0.	.....	
3,750	15,000	.000400	.000200	0.	.....	
5,000	20,000	.000650	.000250	.000000	.000000	
5,750	23,000	.000900	.000250	.....	.....	Elastic limit.
6,000	24,000	.001000	.000100	.....	.....	
6,250	25,000	.001150	.000150	.000200	.000200	
6,500	26,000	.001250	.000100	.....	.....	
6,750	27,000	.001400	.000150	.....	.....	
7,000	28,000	.001650	.000250	.....	.....	
7,250	29,000	.002000	.000350	.....	.....	
7,500	30,000	.002300	.000300	.001150	.000950	
7,750	31,000	.002600	.000300	.....	.....	
8,000	32,000	.002950	.000350	.....	.....	
8,250	33,000	.003200	.000250	.....	.....	
8,500	34,000	.003900	.000700	.....	.....	
8,750	35,000	.004400	.000500	.....	.....	
9,000	36,000	.005000	.000600	.....	.....	
9,250	37,000	.005400	.000400	.....	.....	
9,500	38,000	.006000	.000600	.....	.....	
9,750	39,000	.006600	.000600	.....	.....	
10,000	40,000	.007500	.000990	.....	.....	
10,250	41,000	.008150	.000650	.....	.....	
10,500	42,000	.009000	.000850	.....	.....	
10,750	43,000	.009800	.000800	.....	.....	
11,000	44,000	.010650	.000850	.....	.....	
11,250	45,000	.011550	.000900	.....	.....	
11,500	46,000	.012500	.000950	.....	.....	
11,750	47,000	.013400	.000900	.....	.....	
12,000	48,000	.014500	.001100	.....	.....	
12,250	49,000	.015600	.001100	.....	.....	
12,500	50,000	.016750	.001150	.....	.....	
13,000	52,000	.019350	.002300	.....	.....	
13,500	54,000	.022000	.002950	.....	.....	
14,000	56,000	.024500	.002500	.....	.....	
14,500	58,000	.027500	.003000	.....	.....	
15,000	60,000	.030750	.003250	.....	.....	
15,500	62,000	.034700	.003950	.....	.....	
16,000	64,000	.037500	.002800	.....	.....	
16,500	66,000	.0450	.007500	.....	.....	
17,000	68,000	.0500	.0050	.....	.....	
17,500	70,000	.0525	.0025	.....	.....	
18,000	72,000	.0600	.0075	.....	.....	
18,500	74,000	.0700	.0100	.....	.....	
19,000	76,000	.0900	.0200	.....	.....	
19,500	78,000	.1100	.0200	.....	.....	
19,880	79,520	.1650	.0550	.....	.....	Tensile strength.

General summary.

Tensile strength per square inch of original section	pounds..	79,520
Elastic limit per square inch of original section	do...	23,000
Elongation per inch after rupture	inch..	0.2300
Elongation per inch under strain at elastic limit	do...	.000900
Reduction in diameter at point of rupture	do...	.094
Reduction in area after rupture, per centum of original section		30.6
Position of rupture		".00 from neck
Character of broken surface		granular, with belt of dull flaky metal across broken surface
Elongation of inch sections		".20, ".26"

No. 692.

Marks, $\frac{10\ R_1\ T}{M\ T_6\ I}$
Length, 4″.992.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000067	.000067	0.	.....	
5,000	10,000	.000233	.000166	0.	.....	
7,500	15,000	.000400	.000167	0.	.....	
10,000	20,000	.000567	.000167	0.	.....	
12,500	25,000	.000733	.000166	0.	.....	
15,000	30,000	.001000	.000267	.000067	.000067	Elastic limit.
15,500	31,000	.001233	.000233	.....	.....	
16,000	32,000	.001467	.000234	.....	.....	
16,500	33,000	.001833	.000366	.....	.....	
17,000	34,000	.002700	.000867	.....	.....	
17,500	35,000	.003667	.000967	.....	.....	
18,000	36,000	.004667	.001000	.....	.....	
18,500	37,000	.005667	.001000	.....	.....	
19,000	38,000	.006100	.000433	.....	.....	
19,500	39,000	.006733	.000633	.....	.....	
20,000	40,000	.007333	.000600	.....	.....	
35,150	70,300	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	30,000
Compression per inch under stress at elastic limit	inch..	0.001000
Ultimate strength per square inch of original section	pounds..	70,300
Manner of failure		triple flexure

No. 693.

Marks, $\frac{10\ R,\ T}{M\ T,\ O}$
Length, 4″.992.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000267	.000167	0.	.....	
7,500	15,000	.000467	.000200	0.	.....	
10,000	20,000	.000633	.000166	0.	.....	
12,500	25,000	.000800	.000167	0.	.....	
13,000	26,000	.000833	.000033	.....	.....	
13,500	27,000	.000867	.000034	.....	.....	
14,000	28,000	.000933	.000066	.....	.....	Elastic limit.
14,500	29,000	.003333	.002400	.....	.....	
15,000	30,000	.002733	.000600	.001733	.001733	Deflected convex on the micrometer side of specimen.
15,500	31,000	.002833	.000100	.....	.....	
16,000	32,000	.003500	.000667	.....	.....	
16,500	33,000	.004500	.001000	.....	.....	
17,000	34,000	.005333	.000833	.....	.....	
30,980	61,960	.....	.....	.....	.....	Ultimate Strength.

General summary.

Elastic limit per square inch of original section	pounds..	28,000
Compression per inch under stress at elastic limit	inch..	0.000933
Ultimate strength per square inch of original section	pounds..	61,960
Manner of failure		triple flexure

No. 694.

Marks, $\frac{10\ R_1\ T}{M\ T_8\ M}$
Length, 4″.996.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000267	.000134	0.	.....	
7,500	15,000	.000467	.000200	0.	.....	
10,000	20,000	.000633	.000166	0.	.....	
12,500	25,000	.000867	.000234	.000067	.000067	
13,000	26,000	.000900	.000033	.....	.....	
13,500	27,000	.000933	.000033	.....	.....	Elastic limit.
14,000	28,000	.001033	.000100	.....	.....	
14,500	29,000	.001133	.000100	.....	.....	
15,000	30,000	.001267	.000134	.000333	.000266	
15,500	31,000	.001867	.000600	.....	.....	
16,000	32,000	.002400	.000533	.....	.....	
16,500	33,000	.003100	.000700	.....	.....	
17,000	34,000	.003600	.000500	.....	.....	
17,500	35,000	.004333	.000733	.....	.....	
18,000	36,000	.005000	.000667	.....	.....	
18,500	37,000	.006000	.001000	.....	.....	
19,000	38,000	.006600	.000600	.....	.....	
19,500	39,000	.007067	.000467	.....	.....	
20,000	40,000	.007767	.000700	.....	.....	
34,600	69,200	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds..	27,000
Compression per inch under stress at elastic limit	inch..	0.000933
Ultimate strength per square inch of original section	pounds..	69,200
Manner of failure		triple flexure

No. 695.

Marks, $^{10\,R_1\,T}_{M\,R_2}$
Length, 4".092.
Diameter, ".798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000133	.000133	0.	.....	
5,000	10,000	.000300	.000167	0.	.....	
7,500	15,000	.000467	.000167	0.	.....	
10,000	20,000	.000633	.000166	0.	.....	
12,500	25,000	.000833	.000200	.000033	.000033	
13,000	26,000	.000867	.000034	.....	.....	
13,500	27,000	.000900	.000033	.....	.....	
14,000	28,000	.000967	.000067	.....	.....	Elastic limit.
14,500	29,000	.001667	.000700	.....	.....	
15,000	30,000	.002400	.000733	.001333	.001300	
15,500	31,000	.002633	.000233	.....	.....	
16,000	32,000	.002900	.000267	.....	.....	
16,500	33,000	.003300	.000400	.....	.....	
17,000	34,000	.003867	.000567	.....	.....	
17,500	35,000	.004533	.000666	.....	.....	
18,000	36,000	.004933	.000400	.....	.....	
18,500	37,000	.005833	.000900	.....	.....	
19,000	38,000	.007333	.001500	.....	.....	
39,380	78,760	.....	.....	.....	.....	Ultimate strength.

General summary.

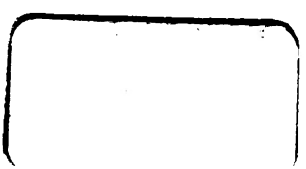
Elastic limit per square inch of original section	pounds..	28,000
Compression per inch under stress at elastic limit	inch..	0.000967
Ultimate strength per square inch of original section	pounds..	78,760
Manner of failure		triple flexure

No. 696.

Marks, $^{10\,R_1\,T}_{M\,R_{10}}$
Length, 4″.102.
Diameter, ″.798.
Sectional area, .50 square inch.

Applied loads.		Compression per inch.	Successive compression per inch.	Permanent set.	Successive permanent set.	Remarks.
Total.	Per square inch.					
Pounds.	*Pounds.*	*Inch.*	*Inch.*	*Inch.*	*Inch.*	
500	1,000	0.	0.	0.	0.	Initial load.
2,500	5,000	.000100	.000100	0.	.....	
5,000	10,000	.000267	.000167	0.	.....	
7,500	15,000	.000467	.000200	0.	.....	
10,000	20,000	.000633	.000166	0.	.....	
12,500	25,000	.000800	.000167	.000033	.000033	
13,000	26,000	.000833	.000033	.....	.....	
13,500	27,000	.000867	.000034	.....	.....	
14,000	28,000	.000900	.000033	.....	.....	
14,500	29,000	.000933	.000033	.....	.....	
15,000	30,000	.001000	.000067	.000033	0.	
15,500	31,000	.001033	.000033	.....	.....	Elastic limit.
16,000	32,000	.002333	.001300	.....	.....	
16,500	33,000	.002833	.000500	.....	.....	
17,000	34,000	.003667	.000834	.....	.....	
17,500	35,000	.004567	.000900	.....	.....	
18,000	36,000	.005167	.000600	.....	.....	
18,500	37,000	.006000	.000833	.....	.....	
19,000	38,000	.006667	.000667	.....	.....	
39,670	79,340	.....	.....	.....	.....	Ultimate strength.

General summary.

Elastic limit per square inch of original section	pounds	31,000
Compression per inch under stress at elastic limit	inch	0.001033
Ultimate strength per square inch of original section	pounds	79,340
Manner of failure		triple flexure

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